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EDITORIAL.

THE QUESTION OF A STATE LAW FOR THE REGISTRATION OF NURSES.

In a most interesting little pamphlet, we note that there is much agitation in Pennsylvania over an act now pending in the legislature which will, if passed, require the registration of professional nurses. This pamphlet, which is our source of information, has appeared under the auspices of the Interstate Committee on Nursing, which committee has for its object "the regulation and advancement of nursing, the spreading of correct information regarding the duties and limitations of the nurse, and the proper relations of the nurse to the medical profession and to the community."

The pamphlet contains the names of more than seventy physicians who apparently subscribe to its contents, which, in no uncertain language, consists of an onslaught upon the trained nurse, and makes a violent appeal against the passage of the law for the registration of nurses, on the ground that it is not only unnecessary, but positively harmful.

It seems that the title "trained nurse" is one that admits of great latitude, so much so that the class of individuals calling themselves trained nurses may be said to be made up of women ranging from the intelligent, well-educated woman, with much hospital experience, down to the ignorant, self-complacent individual, who has had years of experience, but no definite training. Some of our professional brethren in Pennsylvania seem to regard the trained nurse as an entity, losing sight of this range of personality and acquirements, which in itself presents the chief consideration in the passage of such a law. We do not claim that all intelligent, well-educated and well-trained women are *good* women, but we are aware of the fact, on the other hand, that all ignorant women are not good women. It is a fallacy to suppose that, because certain educated nurses are overbearing and require too much waiting upon, these faults result from their training. It is equally fallacious to reason that, because a woman is ignorant and unofficious in the open, she is a good nurse and will obey the physician's orders when left to herself with the patient.

Undoubtedly, since the systematized training of women to become nurses began, the care of the sick and injured has been improved by myriads of details, of which the masculine mind is as a rule incapable, and of which the untrained female mind does not see the need. The great blunders and mistakes that arise in the treatment of the sick and injured, usually have their source in carelessness on the physician's part or ignorance on the part of the nurse, or a combination of these faults. For argument's sake, let it be assumed that the ideals of the properly trained nurse are high ideals; also that the ideals of the ignorant so-called trained nurse may be high, but that the chances are that she has nothing to fall back upon but her womanly interest in nursing, which is one of the most fruitful sources of serious mistakes and insubordination on her part. Assuming as a matter of course the truth in the idea that education and training are our chief resources against vicious carelessness and ignorance, it seems clear that the woman who has honestly gone into nursing from the outset with the intention of fitting herself for this calling and attaining as much knowledge and proficiency as possible, has a good case when she asks of the State that she be protected from those who masquerade as nurses and bring the work of the nurse so often into disrepute by their lack of cultivation as women, and their absolute ignorance of the objects of medicine.

Culture, refinement, education and definite professional training are the qualities that should be demanded of a professional nurse if she is to have a fixed place in the community. The first step towards this end is the registration by the State of those who are capable and the exclusion of those who are unfit. So energetic a demand as that contained in the pamphlet issued against the passage of the Act for Registration of Nurses in Pennsylvania seems far beneath the dignity of any fair-minded person, and much further than this, beneath the dignity of a physician whose aim should be toward the betterment of medical conditions in the community. If any physician or surgeon has repeatedly had the sad experience with nurses which are set forth in the pamphlet; if in his contact with professional nurses, especially where they have been of good hospital training, he has again and again found them overbearing and critical, let him take an honest, unprejudiced look at himself and his methods, and compare them with the standard set by any modern hospital for its medical staff. Perhaps he will discover something.

The trained professional nurse is an absolute necessity to the modern physician, and incidentally to the modern patient. The better her training and the better her general education, the surer will be the chance of her being a good woman and a good nurse. As a class trained nurses should set up requirements and be very careful whom they admit into their sisterhood, and the State should see to it that they are protected.

The statement of Mrs. Fenwick in the *Outlook*, January 6, 1906, has acted as a violent stimulus to the writers and signers of the Pennsylvania pamphlet. In this our brethren make a serious mistake, as they seem to consider it a representative statement, whereas in all probability it is only the statement of a much-biased and enthusiastic woman.

Concerning insubordination on the part of nurses, any clear-sighted physician need only ask himself once (if he greatly values his medicines) to be convinced as to which sort of nurse, in all human probability, would be the more likely to cast his concoctions out of the window. Would it be the educated, refined woman, who understands rational therapeutics, or would it be the old Betsy Prig or Sairy Gamp, who has long administered catnip tea and done obstetrics on her own responsibility?

The regulation and control of nurses by State law is a great step in the advancement of medicine. For a time the passage of such a law might be followed by unpleasant conditions, due to individual misconception, but the end-result would certainly mean a purification of the nursing ranks similar to that produced on medicine in general by the legal demand for the registration of medical practitioners.

AMERICAN PHYSICIANS AND THE DISTORTION OF TRUTH.

The spirit of picturesque untruth is in the air. Again our sober and strenuous ideals of life are disturbed. A new equation of values has been thrust upon us to perturb our spirits, to excite us into righteous indignation because our heretofore unshakable faith in the good possibilities of human nature has been rudely jarred.

We are a patient people, we of the medical profession, and do not generally cavil at things, be they quite important, unless envy and hatred are responsible for foolish and silly personalities. But when nice young men, who had "to toil onward, pricked with goads and stings" at their respective medical schools, come back from Europe and vaingloriously boast of their achievements in foreign lands, we really feel like very poor critics for not having recognized at once (that is before they sailed away) their transcendental mental gifts. That some of them profit by their European sojourn is evident to the unbiased, but that European professors immediately recognize their worth, and with extraordinary graciousness brush others aside to greet them, to propitiate them, aye, to adopt them, seems to us a delusion peculiar to inexperienced youth recently recovered from a plunge into cosmopolitan waters.

Cheek-by-jowl friendships obtain among equals, occasionally, but even our splendid complaisance will not allow us to entertain the idea that our rather raw material, with its lack of a fair knowledge of languages, its gaucheries born of a hampered and cramped early intellectual life,

is carried triumphantly through the clinics of Berlin and Vienna by Professors whose learning is indubitable, but whose manners belong to a category where, as yet, there is no differentiation between the niceties and vulgarities of the table, or conversational subtleties and insolences, things that make for refinement, graciousness and bonhomie. And yet we are compelled to listen to long spaces of dreariness whenever a number of newly arrived and newly advertised doctors see fit to exploit their egomaniac European experiences.

Theirs is not a step towards a higher plane of knowledge as would be evidenced in a highly prized contribution to a medical publication, but a fulsome account of "my successes with certain professors." Science stands abashed at this; and Time hangs his head to think of the sheer waste of all the precious moments of youth, moments that should be dedicated to better things than vain-glory and self-conceit. But unfortunately all this is not realized by these advocates of the last refinements on self-praise. Months, sometimes years, pass before the asininity of their attitude is brought home to them. Only when "my dear Professor from Vienna or Berlin" happens along and cold-shoulders them, do they feel what insignificant entities they are in the Professor's cosmos.

Thackeray says in one of his books that a good Briton is never so pleased and elated as when he is fortunate enough to walk down Pall Mall, sandwiched between two dukes. The same might be said about our sprightly doctors, who are still suffering from a veneer of their idea of European culture derived from contact with one or another "dear Professor", were they ever fortunate enough to hold converse and parade proudly between two real German professors on our streets. But German professors are far less gracious than Thackeray's dukes, and he of American birth and three months' European culture, can count himself fortunate if a slight nod is accorded him when "my dear Finger or my dear Von Bergmann" is on a visit to this country. For it is patent to all that these men carry with them an aura of academic greatness which they think should place them beyond the pale of mere American practitioners who once upon a time spent two or three months in their clinics.

Our dissidence with the recently returned American physician would not have the insurmountable barrier it has at present were he to tell the truth in plain, unvarnished terms. Let him confess his successes, his failures, his achievements, his struggles. But at the same time, let him cease his bombast, his blatancy, for its futility is of the sort that happens when one dry stick is rubbed upon another in the hope of generating a flame.

THE CITY HOSPITAL AGAIN.

A new superintendent is about to be appointed to the City Hospital. The candidates are even now vigorously seeking to strengthen their special claims for preferment among those that have the appointive power, or their friends are doing it for them. Much discussion fills the medical world in St. Louis as to this one's strength or that one's weakness. Again we hear the old question of staff versus individual medical management. The law and charter are again invoked to test either possibility. It is a wearisome question to those who have passed through episodes of this kind many times before. There is no longer an argument to support the antiquated system in vogue here for so many years. The organized medical opinion in St. Louis, irrespective of school or practices, has taken its stand in favor of the staff hospital. A staff organization is the first necessity for a good hospital. What has proven the best in the more advanced medical communities is not too good for the one here. To oppose this is to be traitor to what is potentially the best in medicine in this city. To place obstacles in the way of its accomplishment is but to place greed and selfishness above the common good. If the staff hospital is the best hospital, and if the present conditions permit it to be worked out, then a continuation of the old system is the fault of whoever is finally chosen superintendent. There is no dispute concerning either of these propositions and there should be no doubt upon whose shoulders the blame should rest if the staff hospital should not be developed. The question is now fairly placed. The new superintendent should be made to see this. He should be forced to its realization by the power of medical opinion, expressed or unexpressed, as the case may be. There is no physician strong enough to ignore the force of the opinion so universally advanced. The charter amendments or the charter revision, by which a staff hospital is to be made compulsory by law, is a thing of the nebulous future. It is the excuse of the timid, the selfish and the surgically ambitious who sees in the City Hospital an instrument for his own advancement. We in St. Louis have become too significant a medical community at this time to permit a hospital of the importance of the city hospital to be made the personal machine of one whose sole desire is to make his hand more cunning in surgical technique and thus to obtain surgical material after he is through. The city hospital exists to take adequate care of the sick poor first, and then to advance the knowledge of medicine by teaching, training and investigation. These high purposes are not to be intrusted in the hands of one man for the simple reason that no one man is large enough to accomplish a tithe of these requirements. The organized medical opinion in St. Louis, without regard to school or practice, has put the seal of its high power upon the idea of a staff hospital. The new superintendent, whoever he may be, must take cognizance of this

opinion, or he shall prove the truth of the strictures contained in the foregoing criticism. He may in the fancied security of his position ignore the work that has been done by the more earnest physicians in the joint medical council, or he may make a serious attempt to develop a staff organization. In the one case he places himself in the position of degrading still further an institution that means more than any one thing the measure of the medical standard of this city. In the other case he will obtain the lasting gratitude of the medical profession. It is a pitiful thing that one man should have the power in either the one or the other instance. It is pitiful for him and for us. The new superintendent must face this proposition. The vital thing is what choice will he make. Upon his choice much will depend. It is to be hoped that he will see the seriousness of his position and will act in accordance with it.

SHAKESPEARE IN MEDICINE.

Simultaneously some of our medical journals are publishing the perennial twaddle known to the world for many years by such time-honored variants as the Medical Knowledge of Shakespeare, Some Characteristics of the Medicine in Shakespeare, and the Medical and Surgical Knowledge of Shakespeare.

The *Boston Medical and Surgical Journal,* Jan. 17. 24., (Dr. Albert C. Getchell), the *Bulletin of the Johns Hopkins Hospital,* January (Arthur W. Meyer, Instructor in Anatomy at the Johns Hopkins University), and the *Dietetic and Hygienic Gazette,* January and February (Dr. John W. Wainwright), are the chief offenders against a revival of a weariness that we had thought long dead. But, it seems, we builded "less" better than we knew, and must bear the consequences of a childish belief in the non-recurrence of incubi, literary vampires and nightmares.

Just what purpose medical journals serve by publishing a rechauffe of old subjects is not clear to us, but aside from a feeling of collusion that bores us to exasperation we feel that the small glory achieved by the several authors is a minor matter compared to the unpardonable injury done to a writer of the very first rank. Tolstoi's attack on Shakespeare recently printed in the Contemporary Review (London), was brought on by the indiscriminate praise of indelicate critics and reviewers. And in the same way we would practice the delightful arts of silence were our tempers unruffled by a cessation of Shakespeare's knowledge of medicine, which knowledge to-day is of no practical use, and having once upon a time been exploited by unwary critics, should be allowed a decent and undisturbed interment. But medical journals must think otherwise, hence the Shakespeare-as-doctor output, and the gratification on the part of certain writers for our medical press that burrow-

ing in the graves of dead subjects is of value to themselves and of especial interest to the medical public.

We do not mean here to dwell at any great length upon the new (?) interpretations of the master's words by these, the latest commentators. Suffice it to give a few quotations illustrative of the utter lack of humor of these pundits. For instance, Arthur W. Meyer, in Some Characteristics of the Medicine in Shakespeare says: "In the sixteenth century to bleed meant also to purge. These were usually the initial procedures in case of fever, and of many other affections. Macbeth, in speaking to the Scotch physician, bids him

> * * * * * * * * 'Cast
> The water of my land, find her disease
> And purge it to a sound and pristine health,
> Pull't off I say.
> What rhubarb, senna, or what purgative drug,
> Would scour these English hence?'
>
> —Macbeth, V, 3. "

and Albert C. Getchell in the Medical Knowledge of Shakespeare adds his quota to our fund of unconscious humor by writing:

"Malvolio refers to the anatomical fact of the return of the blood from the extremities along the surface through the veins, when he says:

'"*Malvolio.* Sad, lady? I could be sad. This does make some obstruction in the blood, this cross-gartering.'—(Twelfth Night, III., 4, 20.)'"

We regret we cannot grant them some balm in Gilead despite our severe strictures, but this we cannot do, for if any balm is to be mixed with our criticisms, it must go to him of German birth and addled brains, Herr Franz von Winckel, of Munich, who surely needs our comfort and sympathy for publishing "Shakespeare's Gynaekologie" in Sammlung Klinischer Vortraege. Herr Franz von Winckel regards the dramatist a gynæcologist par excellence, though the excerpts from his article which have come to us, would not lead the veriest tyro into his way of thinking. Falstaff and Schenck are bracketed; a water-drinker will be the progenitor of "wenches" is mentioned; the effects of fright in the mother upon the health of the unborn is not overlooked, and the longings during pregnancy receive due notice. All this, according to our German confrere, proves conclusively that Shakespeare was a gynæcologist the specialists of modern times ought to envy. No doubt, encouraged by this recent attempt to class the dramatist among the first gynæcologists of any age, others will rush into print, and before the year is much older we shouldn't be surprised to be approached by ubiquitous agents who will insist that no modern physician's library is complete without Shakespeare's System of Surgery, Shakespeare's Manual of Skin Dis-

eases, Shakespeare's Short Study of Orthopedics and Shakespeare's Materia Medica.

MOEBIUS AND THE INTELLECTUALITY OF WOMAN.

The recent demise of the famous psychiatrist, Paul Julius Moebius, has called forth many expressions of praise from men in the same specialty, but in all the encomiums showered upon him, scant, if any, mention was made of his most remarkable work embracing his extraordinary opinions as to the intellectual inferiority of women to men.

That this rugged personality should have looked askance at women such as German civilization made possible, ought not to fill us with surprise, for our many readings in German literature have shown us that even the mildest, kindest specimen of the German genus, man, is quite a harsh critic of his womankind. Whether it was Schelling or Kant or Hegel, or to come to modern times, Schopenhauer or Nietzsche, who first taught Germania's sons their intellectual superiority, not only over their lesser sex, but over the entire world, we do not know, but the fact remains, that though the world at large may object to Germany's claim to the sum total of intellectuality, her womankind seems to take it as a matter not to be disputed, hence books of the Moebius genre. If Moebius had limited himself to that which German education, German culture, German emancipation has produced, our objections would not hold water, but with a pantheistic philosophy peculiar to all German scientists he included all womankind, thus evolving a work whose defects merit unmitigated censure.

The intellect of one country is unlike that of another; in fact, different ages in the same country show various crescendos or diminuendos as regards intellectual development. And this obtains among men as well as women and is due to so many conditions that the mere mention of them here would cover too much space. What the intellectual growth among the German women is to-day is unknown to us except as we read of it in the biased works of the Moebius stamp. But in other countries, where it is allowed some sort of liberty, it is better than the pollard German scientists would have us believe in.

Moebius' book of reminiscences, Gedanken ueber die Schule, von einem alten groben Manne. Leipzig, S. Herzel, 1906, published a few months before his death, ought surely to indicate the mental bent of this scientist. "Groben" is not a pretty word, nor is it a favorite Anglo-Saxon one, but its significance in English when used as the noun, Grobian, as Burton does in his "Anatomy of Melancholy," is an exact synonym of what it stands for in German. And in both languages it means much of brusqueness, much of arrogance, much of undiluted boorishness. But

be it said in Moebius' favor, with him it meant extreme candor, the sort of ingenuousness that characterized Carlyle among the English.

It is a human document, this book, bearing "the seal of nearness to the workman's hand," and the man Moebius stands before us stripped of the glamor of scientific fame. But it is more than this, much more, for by the light of its illuminating pages we understand the spirit that prompted his distinctive works, his Intellectual Inferiority of Woman, his Robert Schumann's Last Illness, (Ueber Robert Schumanns Krankheit. Halle a. S. Carl Marhold. 1906). But though by this means we understand the mentality that made possible the work under consideration, we cannot forgive him the bias, the narrowness, the smallness of his mental horizon.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

Of the utmost importance, not only to the present condition of our public health, but also to the future welfare of our citizens, is the question of medical inspection of school children, which is at present exciting a good deal of comment. The future of our country and race lies more in the efficiency of the public school than in any other single factor. A systematic scheme of medical inspection has not yet been put into practice in this country, and is only in its youth in England. Germany, however, has long recognized the value of such inspection, and has employed a corps of medical men to examine school children for some years. President Eliot, of Harvard University, is responsible for the statement that, in the primary grade of school life in this country, forty per cent. of the children are beyond the normal age for the grade in which they are working, and twenty to forty per cent. in grammar schools are over the maximum age for that grade. We need hardly state that mental progress is retarded, and mental dullness of marked degree often induced by errors of vision, deficiency of hearing and the presence of adenoids. In the superficial examinations made so far in this country, some remarkable statistics have been compiled. In Philadelphia, sixty-four per cent. of incorrigible children presented marked physical defects. In New York, where seventy-five thousand school children were examined during the last year, twenty-four thousand showed defective vision, sixteen hundred defective hearing, and fifty thousand nine hundred, had these and other defects that required medical attention. Lovett states, "it is of little use to know that twenty-six per cent. of school children have lateral curvature of the spine, and that it progresses during school life from about eighteen per cent. in the lower grades to thirty-three per cent. in the higher grades, unless we do something about it in the way of providing proper school furniture."

Statistics need not be piled up in order to convince. Though the movement in favor of school inspection by competent medical men is a recent one, it is generally recognized as a reform of great importance. Teachers, school principals and school boards should recognize to the full the significance of the recently developed statistics. Publicity, which is the best means at our disposal for creating or changing public sentiment, should be fully employed in behalf of this movement. The teachers in public schools should be taught the simple rules of hygiene, and the parents of the pupils should not regard the medical examination of their children, or the criticism of their hygienic condition as affronts, but should be taught to co-operate with both the teachers and the medical examiners, and should be thoroughly impressed with the importance of the fact that a properly formulated medical inspection of schools and school children has an element of strong preventive aspect, and would be an assurance and a protection of the health of their children.

EPIDEMIOLOGY.

The *London Lancet* calls attention to the lack of interest on the part of English medical schools in the question of lectures and instruction on The Public Health, and suggests that these lectureships should be better paid so that a better class of men will be attracted to the ever-expanding subject of preventive medicine. Also that the student of general medicine has his interest aroused in this subject by lectures that deal with the relationship of the general practitioner to the public health. In general the medical man need not be weighted down mentally with all the technical minutiæ of administration which is required of a health officer, but he should be informed with the objects and aims of preventive medicine; he need not know the statutes relating to common lodging houses and the disposal of refuse, but he should thoroughly appreciate the means by which disease is spread, the relationship of the diseases of animals to those of man, the reason why disease attacks individuals and groups of individuals, and the relative value of food stuffs.

Any one of us needs only to harken back to his days as a medical student in order to realize that these important factors in the education of a physician receive scant mention, if mentioned at all. Be the attitude of English medical schools ever so lax on these subjects, we realize that we can show much greater laxity in our own country.

We do not advocate a long, tiresome course that would only burden the over-strained medical student's mind, but we believe with the *Lancet* that clear-thinking, active young men should be attracted to the study of Epidemiology and Public Health so that lectures may be given that will interest and inform and supply an absolute necessity in the curricula of our medical schools.

LITERARY NOTES.

The Chautauqua School of Nursing has issued what is probably the most complete book on nursing. Generally, in books of this sort, one branch is taken up quite thoroughly, while others are more or less neglected, but here we have an exhaustive treatment of a subject whose moment is daily increasing.

It would require unusual discrimination to single out this or that lecture as above others in importance and value, for they are all written in a scientific spirit, rare, indeed, in any work which appeals to all classes.

To illustrate our point, let us take the widely divergent subjects—Fevers and Fever Nursing.—Typhoid Fever, and the Uses of Water in Treatment as presented in this work. The former, Lecture No. 19, covers 33 pages, and each and every minutia receives the attention it deserves. As for the latter, Lecture No. 15, the 37 pages are a resume, succinct and concise, which to cover in any other way, would require the reading of many books.

The letter-press is all one could desire, and the illustrations have a thoroughness and artistry rarely seen in works of this sort.

That the Egyptian medical student on leaving school does not think lightly of his future labors and holds in horror criticisms some of our American physicians rather court, is evidenced by the following quotation from the *Lancet* (London): "I swear, in the name of God the Most High, and of His sublime prophet, Mohammed, whose glory may God increase, to be faithful to the laws of honor, honesty and benevolence in the practice of medicine. I will attend to the poor gratuitously and will never exact too high a fee for my work. Admitted into the privacy of a house, my eyes will not perceive what takes place; my tongue will guard the secrets confided to me. My art shall not serve to corrupt, nor to assist crime, and I will not yield, under any pretext of persuasion, to prescribing any poison to anyone. I will neither give nor prescribe to any pregnant woman poisonous drugs capable of provoking or producing an abortion. Ever respectful and grateful to my masters, I will hand on to their children the instructions which I have received from their fathers. May I be respected by men if I remain faithful to my vow. If not, may I be covered with shame and despised. God is witness to what I have said. The oath is finished."

Folio Therapeutica is a new English periodical journal relating to modern therapeutics and pharmacology for medical practitioners. It made its initial appearance in January, and its general make-up is beyond cavil. As for its purpose the apposite words of the editor are worth while quoting: "It will be the aim of this Journal to devote itself to publications on the progress of modern Therapeutics and Pharmacology, and to present in a brief and concise manner the methods of treatment

and preparations which can be safely recommended for use, and which constitute a real advance in Therapeutics; and the evidence given for the reliability of any treatment or drug will consist in the unquestionable authority of the authors by whom, or under whose supervision, the investigations have been made." The Publishers are John Bale, Sons & Danielsson, London.

Hermann von Helmholtz, by Leo Koenigsberger, is a biography of the greatest interest to physiologists and ophthalmologists. Especially interesting to readers is the story of his life while professor of physiology at Koenigsberg, 1849-55. The great epochs of his career occurred during this professorship—the invention of the ophthalmoscope and the method of measuring the velocity of nervous impulses. The book is of great moment, and to those who are interested in the small beginnings and then the full fruition of an extraordinary scientific mind, it is a revelation and an uplift.

Sonneschein's Cyclopedia of Education (The Macmillan Company) is an excellent reference book for the doctor's library. The well-written articles are on the history, theory and modern developments of education. Especially valuable is this work to physicians connected as professors or lecturers with our many medical schools.

The Harvey Society of New York was organized in 1905, as a result of a feeling that the medical profession would welcome an annual series of lectures dealing with what is generally considered the experimental side of medicine, and given by those who devote themselves to experimental work. The lectures of the first year proved so successful that they have been put into book form by the J. B. Lippincott Company. They cover a wide range of subjects, and go far beyond the limits of ordinary medicine.

Sir Almroth E. Wright, the discoverer of the Opsonic theory, prefaces his new book, Principles of Microscopy, with the following characteristic words: The present text-book has no message to those who are content to follow a system of rule of thumb, and to eke this out by blind trial and error. It addresses itself to those who are dissatisfied with the results thus obtained, and who desire to master the scientific principles of microscopy, even at the price of some intellectual effort.

The latest addition to the Science Series (Putnam) is A. Forel's The Nervous and Mental Hygiene. This book ought to appeal to the scientist as well as to the layman, for whom it is specially written, since the author makes it a point to do away with all unnecessary technical terms. Nevertheless, the man versed in scientific expressions and who is inured to them, will not think amiss of a book, the reading of which is a pleasure and a delight on account of the ease of its diction and the distinction of its literary style.

ORIGINAL ARTICLES.

SUCCESSFUL OBLITERATION OF AN HEMANGIOMA CAVERNOSUM OF UPPER LIP AND INNER SIDE OF LEFT CHEEK.

By Francis Reder, M. D., St. Louis.

When we speak of an angioma, we mean a tumor whose principal constituents are blood-vessels. By an angioma cavernosum, we would designate a tumor composed of a framework of connective tissue whose spaces are lined by endothelium and filled with blood. The character of this blood may be arterial or venous. These vascular tumors are of a non-malignant nature, although their histological formation closely resembles that of true carcinoma, the exception being that their spaces are filled with blood instead of with epithelial cells. Angiomata are congenital and increase progressively in size with the growth of the patient. The origin of these congenital vascular tumors is unknown. A theory that these neoplasms are caused by a dilatation of the capillaries, the walls of which eventually become absorbed resulting in the formation of spaces, has been favorably received. Virchow advanced a theory that angiomata find their origin in the embryonic relations where slight irritative conditions about the margins and the circumference of the foetal clefts, which are always copiously supplied with blood-vessels, may cause an abnormal development about these parts with the possibility of a naevus formation. Such a condition may remain latent for a time and may later manifest itself as an angioma. This theory is given as much credence as that of Simon, who became impressed with the idea that nutritive disturbances in the region of the trigeminus was causal in producing such a condition.

It seems that the face is the favorite locality for these neoplasms, two-thirds of these growths having been found there. Strange as it may seem women are more prone to this affliction than men, two-thirds of all cases occurring in women. The brow and the cheek seem to be the favored regions of the face for these vascular tumors; next in frequency come the lips, the nose, the ears, and the eye-lids.

Angiomata are divided into two classes, the simple or capillary, and the cavernous or venous. In the former the new vessels resemble chiefly normal capillaries, while in the latter the blood circulates through larger spaces.

The simple angiomata usually occupy the superficial layers of the cutis and form the so-called port wine stains and mother's marks. They can,

however, lie in the subcutaneous and submucous tissue and form large tumors. These growths are red, blue, or purple in color, according to the depth of the vessels. Usually when superficial they are red, and bluish when subcutaneous.

The cavernous angiomata are invariably of a bluish color. These growths may be diffuse or form distinctly circumscribed tumors. Their favorite seat is the skin and subcutaneous tissue. Numerous tortuous vessels furnish the blood which distends the spaces. Arteries open directly into the spaces, causing some of these tumors to exhibit distinct pulsations.

The growth of a cavernous angioma is usually gradual; it can, however, grow very rapidly so that the telangiectatic condition may assume alarming proportions in a comparatively short time (one to two years).

The diagnosis of a cavernous angioma is usually made without difficulty. Next to its bluish discoloration, which is invariably present in a tumor of large size, we find that its principal characteristic will be its partial or total disappearance (this depending upon the size of the swelling), when pressure is applied. The tumor will immediately reappear when the pressure is removed.

There is no pain in connection with such a vascular tumor, excepting when the swelling causes pressure upon a nerve.

The physician who is confronted with an angiomata cavernosum cannot help but feel the gravity of this affliction, and if he has not, he will, realize in a comparatively short time that these neoplasms are amongst the most difficult lesions the surgeon can meet. Many of these tumors are looked upon as inoperable. Many again have been abandoned after some futile effort at relief.

All forms of operative intervention in these neoplasms harbor the great danger of hemorrhage. In nearly all instances this is alarming and exceedingly difficult to check. On account of the size of these tumors the application of the strangulation method has proved ineffective. Chemic decomposition with electricity or cauterization by means of a heated wire has given results that have only been partially satisfactory.

A method that can aptly be called the coagulation method has undoubtedly given the best results. It is the method submitted and practiced by Dr. J. A. Wyeth, of New York, and consists of injecting water at a high temperature into these angiomata.

My experience with tumors of this nature has been limited. I have had, however, one case under my care, and on account of the severity of the condition, the many disappointments this patient had suffered and the happy termination that crowned the work, I beg to be permitted to present a report of it to you.

With good health, a body full of vigor and free from any physical de-

FIG. 1. Hæmangioma cavernosum of upper lip and inner side of left cheek.

fects, the joys of life are assured. When we look upon a young woman in good health and of excellent build, with a mass as large as a hen's egg, bluish in color, occupying the site of the upper lip and hanging over upon the chin, our sympathy goes out to her for we know that this facial defect deprives her of many of the joys of life.

When I first saw this patient on June 6, 1906, I spoke very discouragingly to her because I did not know how much good nor how much harm I might be able to do her should I undertake to exercise my judgment and skill in her behalf. She had been to a number of physicians, good and bad, for the last five years, seeking relief and invariably returned home downhearted and discouraged.

This was the condition of her face: The right side, excepting two-thirds of the portion of the upper lip, was normal. The left side showed a marked swelling of the cheek which pushed up the lower eye-lid and encroached upon the left ala of the nose. About the malar prominence was an elevated bluish spot as large as a pea. The left nostril was considerably flattened, about one-half normal. Two-thirds of the cheek showed involvement in a tumor mass that hung down over the under lip within one-quarter inch of the margin of the lower jaw. The tumor mass was of a dark blue discoloration and appeared convoluted. Upon stooping this mass would increase in size very perceptibly. The swelling was soft, the skin covering it appearing very thin to the touch. Upon pressure it could be readily depressed and made smaller. The evidence that there was a cavity filled with fluid was unmistakeable to the touch. The protrusion of the tumor was such that it was on a level with a line drawn from the tip of the nose across the cheek and down to the chin. The lower lip and the chin showed atrophic changes corresponding to the shape and contour of the tumor, caused by pressure of the overhanging lip. The incisor and canine teeth of the upper jaw had long been destroyed by the constant attrition of the tumor. Within the mouth there could be seen large bluish masses of mucous membrane lying between the molar teeth and filling about one-third of the cavity of the mouth. This caused an impediment in the speech. Fear of biting this mass during mastication of food and causing free bleeding was a constant source of danger. It was a great discomfort to the patient because of the difficulty in eating. The patient carried the tumor in a sling partly because it relieved the weight and partly because it hid from view the unsightly mass. This, gentlemen, was the condition of the patient's face. And now, what did we do for this unfortunate woman?

The idea that occurred to me at first was to reduce the pendulous part of the tumor with a procedure that incurred the least amount of risk. I thought this to be the ligation method, strangulation by introducing loops of silk subcutaneously along the muco-cutaneous margin of the lip. With

FIG. 2. Appearance of face on day of discharge October 14, 1906.

a very small cambric needle I ligated the lower third of the tumor. Small as the punctures were, the bleeding was most obstinate and continued for sixteen hours. With the aid of ice and pressure it was checked. The experiment demonstrated that it was not the procedure to be followed. The threads became infected and were removed on the fifth day. After nine days the infection had subsided. The condition remained the same excepting that about one-half inch of the lip on the right of the median line had contracted. Furthermore hard nodules could be felt throughout the portion that had been ligated.

The condition, as it presented itself after two weeks, gave me considerable encouragement, and I concluded to resort to the treatment of injecting boiling water. The risks seemed to increase while I was debating with myself to use this method, and I spoke very frankly to the patient of what might happen. This case seemed to me to be one particularly prone to risks inasmuch as so much mucous membrane had to be dealt with. To inject water boiling hot into spaces filled with blood is an operation not free from danger. What if through its injudicious use (and it is an exceedingly difficult matter to judge a boiling water injection properly), a sloughing of the tissues should take place, and after an arduous delay cicatrize, adding another defect, probably equally as bad, if not worse, to the already existing one.

What means have we to safely guard against the danger of embolism? These are indeed matters of vital import. They weigh heavily upon the mind of the surgeon who deals with boiling water and a cavernous angiomata.

The first injection, under aseptic precautions, was made on June 25, 1906. Under ether narcosis, four ounces of boiling water were injected into the tumor. The needle, a small aspirating needle three inches in length, was inserted into the swelling through healthy skin on the right cheek about one-eighth of an inch distant from the tumor margin, and about one-half inch below the nose. In making these injections the advice of Dr. Wyeth was closely followed. All of the tumor was injected excepting the portion on the inside of the cheek. It required about fourteen minutes to inject the four ounces of boiling water. Time was lost by not having been able to obtain a Wyeth syringe. An ordinary glass syringe holding one ounce was used, the aspirating needle being attached to the syringe with rubber tubing. It was a clumsy way of doing this work, but it answered the purpose satisfactorily. The handling of boiling water is a rather delicate task.

While the injection was being made the patient's face was protected in the immediate vicinity of the needle so that the boiling water which was being forced out at the needle junction by the confined steam would not scald the skin. The hands of the operator were protected

by a folded towel. It did not serve the purpose well, and I would suggest to those who have occasion to handle boiling water to use heavy duck gloves.

To anticipate as far as possible any danger from embolism, peripheral compression was applied.

The introduction of the needle and the force applied in injecting the boiling water appears to me to be of great importance. If the needle is introduced too near the skin surface and the pressure used in forcing the water into the tissues is too great, a condition can readily be created that may cause sloughing, and this is to be avoided. In introducing the needle, it was carried through the mass till the point could be distinctly felt through the skin. The withdrawing of the needle about one-half inch gave a reasonable amount of assurance that the boiling water could be gently forced into the diseased area without causing sloughing. The needle was introduced in eight different directions, always through the same skin opening, however. In some places the integument turned pale, in others it was of ashen gray, while the water was forced into the tumor. The heat of the water could be very distinctly felt through the tissues—they were hot.

After the operation the patient was put to bed. The following day the left side of the face was very much swollen but not painful. The left eye was partially closed. A large blister had formed along the mucous border of the lip. The tumor felt hard to the touch. There was a slight rise in temperature (99.6). Two days later the temperature returned to normal. The patient left the hospital on the fifth day. On July 26th a large scab that had formed on the lip margin was removed. The whole tumor was hard (excepting about two-thirds of the tumor mass inside of the cheek). Diminution by granular metamorphosis had reduced the tumor to one-half its original size. I wish to state here that a linear sloughing of the skin occurred which extended from the ala of the left nostril to the margin of the lip. It resulted in a cicatrix that was but slightly disfiguring.

On August 2nd, under ether anesthesia, the buccal mucous membrane was injected with three ounces of boiling water. The outcome was most favorable, only a small slough resulting. Here I had looked for rather extensive sloughing.

August 18th, under ether anesthesia, two ounces of hot water were injected into the lip. Some difficulty was encountered in introducing the needle on account of the hardened condition of the tissues.

August 30th, under local anesthesia, one ounce of boiling water was injected into the buccal mass.

September 15th conditions began to take on a normal appearance.

September 25th, under local anesthesia, one ounce of boiling water was

injected into the outer portion of the lip which still appeared quite large. Ten days later the lip was almost normal.

On October 8th an injection of two ounces of alcohol* caused the lip to assume so near a normal relationship that any further intervention was deemed unnecessary and the patient was discharged.

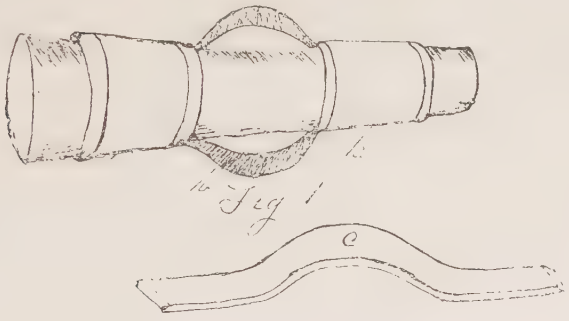
NONUNION OR VICIOUS UNION OF FRACTURES.

By M. R. Barker, M. S., M. D., Chicago, Ill.

In the discussion of this subject we do not include that class of old cases in which fractures seldom form bony union on account of the too-far spent forces of nature. A study of these cases, however, might afford some hint as to the cause of vicious union in younger and more vigorous persons. That we may more intelligently discuss this subject, and that it may be more easily comprehended, we shall first consider the normal, or usual, method nature pursues in repairing fractures. That which first happens, after a fracture, is the formation of a hæmatoma at the point of fracture unless the fracture is compounded and the blood escapes. Some have taught that this hæmatoma is made use of by nature in the process of repair, and that it is an essential factor in this process. That this position is not well taken is proven by the modern method of treating fracture of the patella, in which the fracture is cut down upon, the fragments coapted and retained by sutures of different kinds, and the wound closed with drainage, thus eliminating the hæmatoma from the case, and the cases going on to perfect bony union without delay and without any manifestation that any essential element in the process of repair was wanting. We know the hæmatoma is an unavoidable consequence of the fracture, which we believe nature disregards, excepting to eliminate by absorption as rapidly as possible; that instead of being essential to the process of repair, it is in every case a menace, and in others the direct or indirect cause of vicious union. In all cases of fracture, in the class we are considering, there is great damage done to the surrounding soft parts, this damage being more severe in some cases than others. If the damage has been of such a character as to destroy the function of the eliminating organs, in the neighborhood of the fracture, nature cannot relieve the part from the pressure and other vicious influences of the hæmatoma. Pressure upon these partially devitalized tissues, if continued for any length of time, will cause pressure necrosis of all the tissues, not excepting the ends of the fractured bones. Under

*In substituting alcohol for boiling water I wish to state that I feared too much of a contraction might take place with the use of boiling water and cause a deformity of the lip. I felt assured that in using alcohol the contraction would be but very little.

these conditions nature cannot pursue its usual or normal course of repair, and a vicious union, a direct cause of the hæmatoma, results. The hæmatoma in these cases forms quickly, and frequently so obscures and distorts all of the tissues about the fracture that the surgeon cannot recognize any of them nor manipulate them with any degree of certainty, and if he attempts to reduce the fracture, under these circumstances, he is as likely to fail, or only partially succeed, as he is to succeed, and as a partial or faulty coaptation of the broken fragments is a well-established cause of vicious union, the hæmatoma becomes in such a case the indirect cause of the condition. When such a condition prevails, the safest procedure is to put the patient in the most comfortable position possible, and wait a few days, giving nature an opportunity to absorb the hæmatoma. If it cannot do this then the surgeon's duty is to come to the aid of nature by draining the hæmatoma. This, if done under the strictest



a Casts above and below fracture.
b Iron straps connecting casts over fracture.
c Iron strap ready for use.

antiseptic precautions, can do no harm. While the patient is under the anæsthetic, the fracture is reduced and the fragments wired or otherwise retained in position, and the proper retention dressing applied externally, provision being made for the care of the wound. If the fracture is one of the bones of the supper or lower extremity, as it usually is, a bridge cast is the best dressing. This consists of two ordinary plaster casts, applied one above and the other below the point of fracture, and connected over the fracture by two iron straps, one on each side of the limb, and worked into the cast as it is made. (See Fig. 1.) These iron straps are one-quarter inch thick and an inch and a quarter wide. This form of cast will hold the limb perfectly and give ample room for dressing the wound. I have used this cast many times in compound fractures with perfect satisfaction; also in fractures of the patella, when the open method of treatment was used.

We understand by this procedure that we are violating one of the old

rules of surgery—never to compound a simple fracture. That old rule, under antiseptic precautions, is not so imperative as formerly, and should be modified, and might read—never compound a simple fracture needlessly, carelessly, nor without some requisite end in view.

It must be understood we do not advocate draining the hæmatoma in every case of fracture, but only in that class of cases where the hæmatoma is evidently causing great pressure upon the lacerated tissues, and completing their destruction, and in which the structures are so distorted that the surgeon cannot, with any degree of accuracy, reduce the fracture, and by reason of which nature is prevented from performing the usual functions of repair and cannot herself remove the offending hæmatoma.

Why should we be startled and horrified at the suggestion of the draining of an offending hæmatoma when we have repeatly and calmly opened a knee joint to suture a fractured patella? Is it not time for thinking men to desist from the practice of straining at a gnat and swallowing a camel? We have stated that the first thing that occurs after fracture is the formation of the hæmatoma. This always occurs, but is no part of the process of repair, and does not enter into this process at any time. That which does first occur, and which commences in a few hours after the fracture, is the proliferation of cells from that part of the periosteum next to the bone. These cells form a granulation tissue between the periosteum and bone; also involving the periosteum to the extent of causing it to become thickened. This granulation tissue extends some distance back from the point of fracture, around each fragment, and between the ends of the fractured fragments. At the point of fracture the granulation tissue is much thicker than further back on the fragments, thus making a spindle-shaped mass of this granulation tissue. As time goes on this mass changes to cartilage, and later on to bone. Hence in a few weeks after fracture nature has formed a bony splint about the fractured fragments, which holds them in the position placed when the fracture was reduced. While the periosteum has been building this external splint, changes have been going on in the medullary canal. The adipose tissue of the canal, near the fracture, has disappeared and granulation tissue has taken its place. Presently this granulation tissue is transformed into bone, which is, by some, known as the internal callus. In the formation of this internal callus there is no intermediary cartilaginous stage as in the formation of the external callus. We must bear in mind all the time that the above procedure is a temporary one, and that the provisional callus produced by it only serves the purpose of holding the fractured fragments in position while the slower process of cicatrization into solid bony tissue takes place, and as rapidly as this is done the natural splint or provisional callus is absorbed, the fragments are united and dense cortical bone is formed. With the absorption of

this provisional callus the periostum and medullary canal resume their former condition and relations. When for any reason the continuity of the medullary canal is not maintained, when the fracture is reduced, a portion of the cortical bone of each fragment is absorbed and the medullary canal re-established.

When the above process is executed by nature the function of the injured member is soon restored. But nature does not always, for some good—though perhaps unknown—reason execute these steps in the usual process of repair, nor apparently make any effort so to do. A vicious union resulting. The surgeon now understands, full well, the difficulties that may confront him. Nature has failed totally to fulfill her function in the case. The question now is, can he so operate in the case as to procure the co-operation of nature? If so, well and good, otherwise failure will result with every effort. His first question is, why did nature balk in this case? And he looks about for an answer. Were the fragments properly coapted when the fracture was reduced? Was there a large hæmatoma pressing the parts for a long time? Was the injury produced by some ponderous body which would be likely to greatly interfere with the blood and nerve supply of the parts for some time? Was the nutrient artery of the bone destroyed? Did swelling of the limb take place inside of an unyielding dressing immediately after the fracture, and thus causing undue pressure for a long time? Was there any immobility of the fragments after the fracture was reduced? Is there any constitutional taint in the case, such as teritary syphilis or diabetes?

All of these queries must be considered in every case of vicious union of fractured bone before any definite line of procedure can be adopted.

Probably the most frequent cause of this condition of any cited is the interference with the blood and nerve supply of the part at the time of fracture, thus so modifying the usual or normal course of nature that repair cannot be instituted at all, or if so, in such a feeble manner that only a partial result, or a fibrous union, is obtained. If in conjunction with injury to the nerve and blood supply there has been a faulty coaptation of the fragments, and by reason of this a greater amount of provisional callus must be provided in order to envelop the fractured fragments, and thus nature's burdens increased, she may not be able to repair the injury with the faulty coaptation, while without it she would have succeeded. Faulty coaptation of the fragments is probably the second most frequent cause of vicious union. We have already spoken of the part played in these cases by the hæmatoma and have expressed our ideas as to its management.

The careful coaptation of the fragments, the careful application of such dressings immediately after the fracture as will not cause undue pressure by reason of the swelling of the parts, and the proper dealing with an offending hæmatoma, are prophylactic measures of great value.

and should be borne in mind by every surgeon, in all fractures he is called to treat, especially of bones of the arms and legs.

While there are some cases of vicious union, due to the constitutional taints above cited, they fortunately are very few, and constitute the cause in the smallest group of cases. We say fortunately, for this reason: If the usual work of repair is nullified by a constitutional taint, it is probable that no effort of the surgeon will be able to so modify it that nature can perform her function, hence in these cases the prognoses is always grave.

It is an old and widely accepted theory that this condition is due to the intervention, between the fragments, of some of the tissues about the fracture. In fact, every tissue in the neighborhood has been incriminated—nerves, muscles, fascia, periosteum—have each been indicted and were each equally innocent. The contractile quality of most of these structures, when sundered, would prevent their being caught between the fragments, and would release them if they were caught. It is so improbable that this is ever the cause of this condition, unless in very exceptional cases, that its discussion is useless.

The question of greatest importance is, in these cases, what can we do to aid nature in restoring the usefulness of these members? The examination of the history of these cases reveals different lines of treatment, all having their successes and failures. Irritation, produced in different ways between the fragments, has been in vogue for many years. This irritation has been produced by rubbing the fractured surfaces together; by injecting irritating drugs between them; by driving nails of different materials into the fragments, thus fastening them together; by the use of the seaton; by wiring the fragments together; by resecting the ends of the fragments, bringing them together and using wire or nails as the irritating agent; the idea in all of these methods being to spur nature on to a greater effort at repair by the irritation produced. If the vicious union is caused by some constitutional taint, together with irritation, there must be used some treatment for the discrasia, probably a forlorn hope at best. We believe the best treatment in these cases, guided by the strict laws of antisepsis, in that class where irritation is indicated, is one of two procedures, the selection in any case, of either of these procedures, to be determined by the condition of the periosteum at the seat of fracture as shown when exposed by an incision. If the periosteum is pretty well intact, and can be united perfectly over the ends of the fractured fragments clear around the fracture, by sutures, it is best not to molest it more than is necessary in curetting all the fibrous tissues and debris from the fractured surfaces, and rendering these surfaces as nearly like newly fractured surfaces as possible. The fragments are then placed in perfect coaptation, and wire sutures placed about one-half inch apart, extending nearly through the thickness of the bone. They

are then drawn as tightly as possible, without breaking, by twisting their ends together. The periosteum is now carefully united, where torn, all rents in it being closed by fine catgut sutures; it is then placed as nearly as possible in the position it was in before the injury—that is, the line of fracture clear around is lain over with this blanket of periosteum. The superficial tissues are now closed, with drainage, and the limb dressed in the fixation bridge-splint, or cast, before described. Should the periosteum be lacerated, and bruised, and stripped back from the bone, and in such condition that it cannot be repaired and made functionally active at the point of fracture, it must be stripped back to a point a little beyond where it is normal, or nearly so. The end of each fragment is now resected as far back as the periosteum has been stripped from the bone. We may have to sacrifice an inch or more of bone in this procedure. The end of the periosteum, in the deepest portion of the wound, is now sutured together over the line of fracture; the superficial surface of the bones are now brought together and the suturing of the periosteum completed, clear around the bone, and the line of fracture covered by it. The fragments now being in apposition, they may be wired or pegged together as best suits the operator. The superficial structures are closed, with drainage, and the bridge cast used as above. These two methods best meet all the indications, in a surgical manner, when the irritation method is indicated. After the indications have all been met, and the best treatment carefully carried out, there is quite a large per cent of failures, nature absolutely refusing to co-operate with the efforts of the surgeon. If failure is the result the surgeon may advise waiting a number of months, or perhaps a year, hoping that the forces of nature will be restored, and then try again. This has succeeded in a number of cases and is the best method to pursue. If failure still results, some apparatus may be used or the limb amputated. We might here, with propriety, allude to the importance of this subject. Burns has collected over 1,200 cases which were treated by different methods, but unfortunately only gives the results of those treated by resection. In these there were only 56 per cent of recoveries. Von Bergman's Surgery, Vol. III, page 134. In the same work and volume, page 135, 187 cases are reported, all treated by resection, of which 73 were unimproved. These reports are of little value, excepting as they tend to show the frequency of this condition, as most of the work was done prior to the time of antiseptic surgery. Sharpless, in a recent article—*Journal American Medical Association,* Oct. 28, 1905—refers to 150 cases, recorded in the Cyclopedia of the Practice of Surgery, published about the fifties. These cases were treated in various ways, with the total result of 29 per cent remaining uncured. These cases, like the above, were treated before the time of antiseptic surgery. According to the best information we can obtain, about 1 per cent of all frac-

tures result in vicious union. In this estimate, fractures of the patella are not considered, and as the condition occurs almost always in fractures of the bones of the leg or arm, the per cent of these fractures in which this condition obtains must be much larger. It is a fact that this condition occurs quite frequently, and that a large per cent of them are not benefited by any known treatment, and that the death-rate following these treatments is by no means inconsiderable. These things being true, every surgeon should bear in mind the possibility of this condition complicating every fracture he is called upon to treat, especially those of the arm and leg, and inaugurate every prophylactic measure known.

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LESSONS TO BE DRAWN FROM FORTY-THREE RECENT OPERATIONS ON THE STOMACH.

By Willard Bartlett A. M., M. D., St. Louis, Mo.

The result of modern operative work on the stomach serves, possibly, as the best example of the striking progress made by surgical therapeutics in the past few years. However statistics founded on gastric operations performed more than three years ago, when the technique was but partially developed, are of comparatively so little value, that I lay especial emphasis on the fact of these remarks being confined to the results attained in forty-three consecutive operations performed in the recent past.

Fifteen of these were for cancer of the stomach and twenty-three for gastric ulcer. Gastro-enterostomy was done twenty-seven times and seven resections of the organ were made. In three cases there was cancer so extensive that I had to content myself with a simple exploration, while in two others, having perforated gastric ulcers to deal with, I resorted to drainage alone, the condition of these patients being too critical to warrant anything further. There were two atonic dilatations for the correction of which gastropexy was undertaken. In one patient, suffering from perigastritis, the organ was so deformed and the pylorus so bound down with old adhesions that I did a gastro-enterostomy for drainage; in one instance drainage of the gall bladder into the stomach was instituted, for the relief of jaundice, due to complete obstruction of the common duct by cancer of the head of the pancreas. The forty-third operation was done for gastric hemorrhage due to a gunshot wound of the abdomen. Here the work consisted in ligating bleeding vessels at the minor curvature.

Only four of these patients in whom a stomach operation was undertaken for the relief of gastric conditions, died in the hospital from any causes whatsoever. One of them, seventeen days after gastro-enterosto-

my, died from vicious-circle while another succumbed to acute bronchitis six days after a resection, free from abdominal symptoms and taking plenty of fluids. A third was also free from abdominal symptoms and taking nourishment three days after a gastrectomy, when he expired suddenly as a result of pulmonary embolism. Too long an operation resulted in the death of the fourth patient; the procedure took an hour and a half, during which time I removed the patient's gall bladder after having made a suture gastro-enterostomy for cancer. In view of this single experience we now give the most serious consideration to the prevention of post-operative shock by using the minimum quantity of ether as well as by finishing the various types of operation within the following period, viz.: button gastro-enterostomy fifteen to twenty minutes, suture gastro-enterostomy thirty to forty minutes, gastrectomy forty-five to sixty minutes.

It will be seen from the above that we lost only one patient in direct consequence of the forty-three operations, and in order to show that this work, viewed from any standpoint, is becoming safer with increasing experience, I will state that we have not lost a single gastro-enterostomy or resection patient since November, 1905, nearly a year and a half ago.

Many cases are alike in all particulars, hence there is no object for my including all the details of every one. I believe that more can be accomplished by giving particular prominence to rare or especially interesting manifestations of a few, which may prove to be unusual. This, as above stated, is a virgin field, and every uncommon observation is of value, as a large number of them, taken from various operators, must finally go together to make up the sum-total of our knowledge on the subject.

The danger of post-operative hemorrhage is strikingly illustrated in the following case:

Mrs. C., a resident of St. Louis, 41 years of age, born in Alabama, housewife, married; had been a sufferer from indigestion for twenty years. I will not go further into the history than to state that it was impossible for the most careful physical and chemical examination to make an absolute diagnosis between ulcer of the duodenum and disease of the biliary passage. However, on March 27th, 1906, her abdomen was opened; just below the pylorus, on the upper surface of the duodenum was found a thick scar, about the size of a nickel. The pylorus was narrow, the stomach dilated and hung low. I did a posterior suture gastro-enterostomy, after the new method of Wm. J. Mayo, published in the *Annals of Surgery* of April, that year, and got the patient back to bed in first-class condition. About four hours after the operation, she commenced, slowly, to collapse, and grew gradually worse, until the evening of the same day, when her pulse had reached 150 and was so small that it could hardly be counted; her respiration was

labored; temperature slightly elevated, and she seemed in a desperate condition. Percussion revealed the stomach distended, until it reached from above the umbilicus to the pubis. Through the tube I washed almost half a gallon of dark, bloody fluid out when she seemed greatly relieved, and her condition improved somewhat. The next morning, about a quart more of the same kind of fluid was washed out of her stomach, while her pulse remained about 150 and her respiration about 40, during that day as well. She grew so weak that she could not speak above a whisper, and seemed upon the point of death. Thirty-six hours after the operation she commenced to take champagne, her pulse gradually grew slower, and of better quality, and in a day or two she was very decidedly better. Two days after the operation she had three large bloody stools, and complained of being hungry. Five days after the procedure, she was doing finely, in every particular, and a week later taking general diet, without discomfort. She is now hungry all the time, and for the first time in twenty years can eat absolutely everything she wants.

No doubt, these hemorrhages came from the anterior lips of our visceral incisions. The posterior ones are united by a lock stitch, whereas, this is scarcely a physical possibility for the anterior lips. The Mayos re-operated on such a case, found the bleeding point, and ligated it, with ultimate success. However, I should never have dared to do anything of the sort, in the condition which my patient found herself, when a ligation was most urgent.

In my next case I will report a complication of the modern no-loop operation, the like of which has not yet been recorded in surgical literature. My friend, Dr. J. G. Mumford, of Boston, reported a case recently in the *Annals of Surgery,* which is somewhat similar. However, it differed from mine in that his was an abnormal subject to begin with, whereas nothing unusual was noted in the anatomy of the abdomen, with which I had to deal.

Mr. M., 50 years of age, had lost thirty pounds in two years. He had had a history of long continued stomach trouble, and taking everything into consideration, we were hardly able to state in his case whether we had to deal with a chronic ulcer, pure and simple, or the same thing, upon which cancer had been grafted secondarily. However, the need of an operation was apparent, hence on Oct. 25, 1905, his abdomen was opened and a thick, white scar, the size of a dime, marking the site of an ulcer on the anterior aspect of the pylorus was seen. There was distinct spasm of the latter, even under ether, so a posterior suture gastro-enterostomy was made, after the method of Moynihan, which, as those of you know who take an interest in stomach surgery, contemplates a twisting of the gut on itself, so that the jejunum falls from left to right, instead of in the opposite direction, which

Dr. Mayo has just shown should normally obtain. Five days later, he begged for beefsteak, and at the end of a week after the operation, he commenced to vomit, this continuing until he retained absolutely nothing. We got him up on the 10th day and out in the yard on the 12th, trusting that this would have a beneficent influence, but at the expiration of two weeks from the time he was operated upon, the vomited material had a fecal odor, and further surgical interference was deemed absolutely imperative. Upon again opening the abdomen, we found the following astounding picture:

The stomach, which had been greatly dilated, was now shrunken and retracted so high up under the ribs that the greater curvature was higher than the point at which the duodenum passed through the mesentery, hence, the one-inch loop of jejunum, which had pointed downward at the completion of the first operation, now pointed upward, the bowel being sharply kinked at the suture line. The efferent bowel was flat, while the afferent was immensely distended, showing that no bile ran past the kink, but all was thrown from the duodenum directly into the stomach, and vomited. It seems that the modern short loop, or, as called by some, no-loop, has at least this one distinct danger, namely, that perfect gastric drainage may result in so much shrinkage of the organ as to pull the new opening higher than the level at which the jejunum originates and thus lead to a kinking, which would not be so likely to occur if the two points above mentioned were separated by six or eight inches of movable gut, as was formerly the case before the short loop came into vogue. In this case I succeeded with the greatest difficulty in making an entero-anastomosis around the kink, and had the satisfaction of seeing the lower bowel fill up at once. In addition to this, the patient never vomited again, but the second operation was too much for him, in his feeble condition, and two days later he died.

A recent case illustrates very nicely the inability of gastro-enterostomy to permanently cure certain of these benign cases. In July, 1904, I did a posterior suture gastro-enterostomy upon Mrs. K., then 41 years of age, who had, for many years, suffered all the classical symptoms of gastric ulcer. Several scars were found and her condition was so completely relieved by the operation that, for about eighteen months, she ate absolutely everything, gained some twenty pounds in weight, and was able to take up once more her work as housekeeper. Then in December, 1905, her old symptoms recommenced; she had pain high up and a little to the left of the median line, vomited frequently, this often having blood in it, got so that she could not eat solid food without distress, lost weight, and, in fact, became physically so reduced that she came to me begging a re-operation.

On the 21st of April, of this year, I opened the abdomen once more

and found the gastro-enterostomy opening, apparently as wide as I had left it, without even an adhesion around it, and the pylorus open as well. In fact, the mechanical status seemed to be all that one could desire. However, the stomach was adherent to my old scar in the abdominal wall, and considerably distended, hence I determined to resect the ulcer-bearing area, including the scar, and thus do away with whatever element of crippling this might produce. The operation was easily accomplished, and, to my astonishment, when the viscus was opened, I found three typical round ulcers, lying side by side, on the lesser curvature, in spite of the fact that this stomach had two good points of drainage. As might be expected, the patient has recovered perfectly from her symptoms. She was up in a few days, and three weeks after the operation went home, eating a general diet, and expressing herself as being perfectly pleased with the outcome.

I just stated that resection has completely displaced gastro-enterostomy in the treatment of cancer wherever this is physically possible. However, there are still a large number of patients whose fear, or, in some cases, I am sorry to say, whose physicians keep them from having an operation done, until that fortunate early period is passed, in which a resection is possible and feasible. It has been my misfortune to encounter quite a number of these patients, and to show what striking benefits are manifest for a short time after gastro-enterostomy in some cases, I will mention the following three:

Mrs. F., 54 years of age, came to be operated on the 16th of September, 1905, after having lost sixty-seven pounds, vomiting everything and living on fluids for many weeks. When her abdomen was opened, it was seen that she had a carcinoma at the pylorus, which had invaded the pancreas to such an extent as to render resection impossible. The stomach was immensely dilated, and, in view of her reduced condition, an anterior gastro-enterostomy was made with the button, not more than fifteen minutes being consumed in the whole operation. The next day she stated that she felt the greatest relief, being free from the annoying peristaltic movements for the first time in many weeks. She did not vomit again after the operation. Three days later she was up in a chair, and six days afterward was walking around, hungry, and begging to go home. Eight days afterward she ate general diet without distress, and on the ninth day was sent home feeling stronger than she had for a long time. On the thirteenth day she attended her son's wedding, took part at the repast which characterizes such occasions, and when I last heard from her, a few weeks later, was rapidly regaining weight.

Mr. M., a saloonkeeper, had a simple Murphy button gastro-enterostomy done on the 24th of February, 1906. For days, previous to this time, he had vomited everything he ate and drank. He had lost

seventy pounds in ten weeks and was in every particular a pitiable object. The day after the operation he was entirely comfortable and did not vomit again while he was in the hospital. On the eighth day he was up most of the time; on the eleventh, he was eating everything, and on the thirteenth went home apparently in first-class condition, gaining in weight, with no stomach symptoms. This day, less than two weeks after the operation, he was found tending bar by one of my assistants who chanced to visit his place of refreshment. Two and one-half months after the operation I saw him again, and he stated that his old pains had returned, showing that the dreaded malady was now re-asserting itself, and he will, no doubt, soon pay the price, which an earlier radical operation might have saved him.

A third patient furnished the most striking example in all my experience of what can be done by gastric drainage in cancer of the pylorus. A few days ago, on the street in St. Louis, I met a plump, red-cheeked woman, who seemed to know me, and after a second glance I noted a family resemblance which led me to inquire after the condition of her sister, remembering that I had done a gastro-enterostomy for cancer on one of three similar-appearing sisters, some months before. The lady smiled and said, "I am the sister to whom you refer." When she said that she had gained forty pounds since my operation of six months ago, it is readily understood why I mistook her for her overly-healthy relative. It is possible that our eyes deceived us in the character of her lesion, but several gentlemen, for whose knowledge of gross pathalogic anatomy I have the highest respect, were present at the operation and confirmed my opinion that it was a cancer of the pylorus and lesser curvature, which had invaded the transverse mesocolon to such an extent that radical operation was not to be thought of. Further comment on this case is, I trust, unnecessary.

The faulty mechanics of our older methods in this work are well brought to light in the recital of a case in which I was recently forced to re-operate.

The patient is a Miss W., thirty-six years of age. My first operation in her case was done three years ago this month. There was a typical history of gastric ulcer with vomiting of blood and at the operation the lesion was found near the pylorus. I did a posterior, suture gastro-enterostomy with a loop about eight inches long, as was common at that time. In addition I short-circuited the loop by connecting the two limbs with a Murphy button.

Now the interesting part of all this comes when I relate that after six weeks of such health as she had not enjoyed for years, she commenced to vomit bile in spite of the entero-enterostomy and has continued to do so up to the present time, or rather, up to last month when I again opened her abdomen and found both anastomoses about the size originally made

and the ulcer completely healed as far as the exterior of the stomach showed.

It is of value to have demonstrated in this way that bile will flow past an opening in the gut and gain access to the cavity of the stomach.

Since the second operation the patient has not vomited, and in fact I have demonstrated by lavage that there is not a trace of bile in the stomach. This second procedure consisted in cutting the bowel in two just above the entero-enterostomy and implanting the upper portion into the side of the lower. This completed what is known as the Roux "Y" anastomosis.

One of the more recent developments in stomach surgery has been the attempt to treat the dragging down tendency of atonic dilatation by gastropexy.

On account of the fact that the individuals thus affected are almost always neurotics and consequently hard to benefit permanently by any sort of treatment, one hesitates to attempt this operation. Especially did I enter upon this subject with trepidation in view of the fact that stomach surgery has had most of its failures to chronicle in just this class of cases, in which formerly fruitless gastro-enterostomies and other drainage procedures were undertaken. However, some excellent names are behind this procedure and I have tested it twice.

One of these cases was operated upon four months ago and the second two months ago. The procedure and the subsequent history is the same in the two and, on account of the second being too recent to be of much value, I will recite the history of the first alone.

The patient was a woman thirty years of age, white and unmarried. She had suffered from pain in the abdomen at intervals since she was fourteen years old. Serious indigestion had commenced three years ago, without known cause. At first she had vomited a good deal but not much recently and never any blood. A feeling of pressure and discomfort in the stomach region always commenced about an hour after eating. She is constipated and has lost in weight from 108 to 93 pounds. On account of the distress caused by food she has gradually limited her diet to eggs and milk. The pain is so great on standing up that she lies down most of the time, which gives more or less ease.

Physical.—The patient is a small, delicate, emaciated individual whose lower costal cartilages meet at a very acute angle. She complains of great pain when pressure is brought to bear in the middle line half way between ensiform and umbilicus. At about this point a transverse, sausage-shaped resistance can be felt which is tender on pressure. The stomach is dilated and extends with its lower border about two inches below the umbilicus.

Operation.—The abdomen was opened and the stomach found to be

distended and lying so low that its minor curvature was not one inch above the umbilicus. The pylorus admitted my thumb and the duodenum was greatly distended in its first portion. To correct the displacement five interrupted silk stitches were used at intervals to unite the greater curvature to the anterior abdominal wall at about the former level which the lesser curvature had occupied. These stitches were placed a little more than an inch apart. The patient vomited a few times after the operation, but aside from this made a perfect recovery. Four days later she stated voluntarily that the dragging pain in the stomach region was gone. In a week she found that she could take soft food with very much less discomfort than before the operation. A few days later a forced general diet was commenced, the patient taking six small meals a day. Within four weeks from the time of the operation she had gained considerable in weight and in spite of the large amount eaten, remained completely free from digestive symptoms of any kind. Almost three months after the operation I heard from her physician that she was entirely free from the old dragging pain which had formerly caused her to lie down most of the time, was eating everything and considered herself a normal individual.

I only trust that when a sufficient time to judge such a case has elapsed that her condition may remain satisfactory.

My personal experience with resection, as opposed to gastro-enterostomy whether in the treatment of cancer or of ulcer, has been so decidedly in favor of the former that I cannot help expressing the hope, and indeed the opinion, that we will become more and more radical instead of less so in the treatment of all well-defined organic stomach lesions. No surgeon of the present date, who is at all conversant with gastric work, thinks of doing anything but a resection for malignant trouble where this is by any means possible, and I am firmly convinced that the same stand will one day be taken regarding surgical ulcer. I have seen gastro-enterostomy cure an ulcer patient immediately and for all time, but I have also seen a few results which were not ideal. However, the resection cases do brilliantly from the start and, other things being equal, they can be sent home with a much more positive assurance of definite cure than is possible where the simpler operation is done.

To illustrate the point I cannot refrain from reciting the case of a gentleman whose stomach I resected only a few weeks ago. The history was,—he is fifty-five years of age, white, a business man and married. He has suffered from digestive trouble for fifteen years and, without going into details, I will simply state that this has been chiefly a matter of pain of a character so intense that morphine practically failed to give relief. He has vomited blood and had blood in the stools. The contents of the stomach are of an acid re-action and a mass the size of a

lemon can be felt a little to the right of the middle line, two inches above the umbilicus. When the abdomen was opened this mass was found to be one of the largest callous ulcers that I have ever seen, in the lesser curvature, extending onto the anterior and posterior stomach walls with tiny nodules on the anterior wall and fairly large glands along the minor curvature. I did a resection after the second Billroth method, the whole procedure taking a little less than an hour.

The night before the operation he could not sleep for pain, and a few hours before it he vomited an immense amount of blood. However, after the procedure he never vomited again, has not had one twinge of pain to the present time, his pulse has never been rapid, he began to take a general diet on the tenth day, was up on the twelfth, went home within three weeks from the time he entered the hospital and tells me now that life is worth living for the first time in fifteen years.

The gastrectomy patients give practically this history without exception, while the same cannot always be said where one contents himself with a gastro-enterostomy. In the instance under discussion it would have been little less than criminal not to have made a resection on account of the possibility of secondary cancerous involvement and one must take into consideration the likelihood of cancer engrafting itself upon an ulcer where there are at the time of operation none of the external evidences which were present here.

I have not yet received the pathologist's report on this case so am not prepared to state definitely the character of the lesion, but in either event the patient has an excellent chance to remain well.

The time which has elapsed is still too short to enable me to say very much about definite results in the cases now under consideration. However, it is not without value or interest for my readers to know what has been accomplished up to date. In this connection I will consider only the patients upon whom I did gastro-enterostomy, resection and gastropexy.

It will be remembered that two patients died after gastro-enterostomy and two after resection. This leaves twenty-five of the former, five of the latter and two on whom the position of the stomach was corrected. Twenty-one of these patients suffered from benign and eleven from malignant diseases. I have only been able to keep in touch with eighteen of the former, two of these the gastropexies—as has been stated above, being in the best of condition to date. This leaves sixteen benign patients.

Six of them have had no more stomach symptoms since the operation, some being among my very earliest cases. One remained perfectly well for six months and then died of a lung affection. Four considered themselves cured for a period of several months and may

now be regarded as well at times, or one might better call them in general "improved," and I believe that these four patients would be reasonably comfortable if they could only be induced to live rationally. In two other cases it is still too soon to make any prognosis. However, I will state that both are completely free from symptoms a few weeks after operation and express themselves as being already recompensed for the ordeal by this temporary relief from pain, no matter what the future may have in store. Two of my benign patients received absolutely no benefit from surgical treatment.

I can tell more about my malignant cases than about the others, since I know the history to date of all the eleven who survived gastro-enterostomy or resection, making no count of the three whom I simply explored. It will be remembered that one resection and one gastro-enterostomy for malignant diseases resulted fatally.

There was the most marked immediate benefit in every instance. All of these patients stopped vomiting and commenced to eat very soon after the operation. Three of them lived nearly a year after gastro-enterostomy and of these three, two remained free from stomach symptoms and gained astonishingly in weight during the greater part of this time, while the third did about as well, excepting in so far as weight is concerned, she being seventy-five years of age. One dropped dead on the street two weeks after leaving the hospital. In this connection it is interesting to know that he had just been able to eat a fairly hearty meal without stomach symptoms.

Four lived from two to six months after the operation with varying periods of freedom from symptoms. Three are now alive two weeks to six months after the procedure and at least two of them are in a condition of relative comfort.

I have attempted in the above to make out a reasonable plea for more and earlier gastric surgery. I believe I have shown that the work is not more dangerous than other operative lines, to which we all recommend our patients. The time is passed when we allow a sufferer from appendicitis, or gallstone disease, to go on gradually to death, or chronic invalidism, and shall we not now take the same common sense, businesslike view of the stomach diseases, which have been shown to be highly amenable to surgical treatment?

SOME OBSERVATIONS ON INFANT MORTALITY AND ITS CAUSES IN THE CITY OF MANILA.

By Edwin C. Shattuck, M. D., Manila, P. I.

It is not the object of this paper to go deeply into the subject; in fact, to do so at this time is impossible. A brief presentation of some of the facts may be useful, even if nothing more is acccomplished than to suggest lines for future investigation.

In an inspection of cadavers reported to any Health Station in Manila one's attention is immediately attracted to the large number of deaths among children. During the past year the writer has made a point of seeing as many as possible of these bodies, first, to avoid passing any contagious cases, and second, to learn what was possible from the appearances presented.

It is no news to most of us that the infant mortality of the city is 50 per cent. The general predisposing causes are the same here as elsewhere, but there are certain features that are peculiar, if not to Manila, at least to the Philippine Islands. The lack of preventive sanitary measures among the common people, and the deep-rooted prejudice against them, must be seen to be appreciated.

In a study of mortality it is fitting to begin with the births and the conditions surrounding them. Too true is it that "when we begin to live we begin to die." Under what circumstances does the average Filipino baby enter upon the struggle for existence? No trained nurse awaits with warm bath and soft blanket to minister to his needs. A doctor is not thought of. Each Health District has one or two municipal midwives, and about the same number of licensed midwives doing private work. The districts contain on an average 35,000 population, with 200 to 300 births per month for each. It is apparent that the majority of these are without qualified assistance. There are throughout the various districts numerous women who claim to be midwives by experience, and who are employed by the poor and others for lack of other recourse. These receive as compensation their board and lodging for the time, and probably a few pesos when the money is on hand, though as a rule, they deny receiving anything on account of their being unlicensed. What is the effect of their work on infant mortality? It is believed that one-third or more of the still-births are preventable. Among some of the customs that are not conducive to a good result for the mother or child, is that of winding a rope about the abdomen below the umbilicus, crossing the ends and having two persons pull strongly on them in opposite directions. It is stated that this is done, not as might be supposed, to compress the uterus, but to draw together the pelvis, it being feared that the symphysis pubis will be dislocated during the labor.

There are instances of the patient having been almost cut in two in this way. Again, rough kneading of the abdomen during difficult labor, or even standing and jumping on it are practiced. In a case, recently sent to the morgue, of a pregnancy at term with breech presentation, the violence used in attempts to effect delivery with the rope about the abdomen, etc., had broken the eleventh rib, forced the point of a fragment into the liver, rupturing the latter and setting up internal hemorrhage. My experience after such cases is that it is impossible to find the perpetrators of the atrocity. The unlicensed midwives, parteras or intrusas as they are variously called, make examinations with the finger during the progress of labor without any preparation other than dipping the hand in cocoanut oil, disdaining to wash, and usually having a cigarette or betel-nut in the mouth. Under these conditions it is not difficult to foretell what awaits the unfortunate infant should it survive the ordeal so far as to have the cord dressed and to receive a bath. The cord is cut with ordinary scissors, or a knife, and tied with varying material, all guiltless of sterilization. When left to her own devices the favorite dressing for the cord with the partera is cigar or cigarette ash, or worse, a wad of buyo, which she has been chewing. The Bureau of Health furnishes an umbilical package which the municipal midwives use, and which are furnished gratis to the poor when called for. The others are recommended, and even required to use lycopodium, or boric acid as a cord dressing. We frequently find cases where the irresponsible partera has disregarded all instructions. Death from umbilical hemorrhage is not rare, in some cases occurring early, in others the hemorrhage being coincident with umbilical infection, or again, the municipal physician may certify tetanus or infantile convulsions. On one occasion a body was found with the cord cut off close, and without sign of a ligature. The child had lived five hours; there was no apparent hemorrhage, but as the cause of death could not be determined, the office of the prosecuting attorney was notified and an investigation made, but without result.

It was formerly my impression that the induction of criminal abortion was unknown, or very rare among the islanders. Several months ago a four months' fetus was found in the garbage in the Santa Cruz market. No evidence was ever obtained of how it came there. An extract from an article credited to Dr. Hayes, U. S. A., takes the ground that abortion, far from being rare here, is frequently procured, and that the bark of the salchichi tree is given in the form of an infusion as an abortifacient by the native parteras, and produces the desired results. I have been unable to verify this statement.

It seems appropriate here to mention some curious customs which must have some effect on our death rate. Certain persons among the

people, called medicillos, were formerly in the habit of practicing on a small scale in Manila, and do so still in the provinces. One of their customs was to make numerous small incisions, thirty or more, on the chest, back and arms of the newborn child "to prevent its getting sick." The incisions were about a quarter of an inch in length, and were made with a small lancet. It is likely that some of these unfortunate children helped to swell the number of deaths from convulsions. This practice has for some time been discontinued in Manila, though it is said still to be followed in the provinces.

Another popular remedy is to make numerous small burns an eighth of an inch in diameter, over a part supposed to be diseased, or over the whole body, as a remedy for convulsions. The burns are effected by actual cautery, by means of burning cocoanut wood fibre. I found many bodies with scars from these burns. It is a form of cruelty that should be prevented.

Circumcision is commonly performed by the natives on young children. A longitudinal incision slitting up the prepuce above constitutes the entire operation. I have never seen any deaths following this operation.

Under the classified list of causes of death we find "lack of care". This seemed strange to me two years ago, but in the light of to-day it would be the correct diagnosis for many deaths appearing under other headings. If educated, many of the parents are little less than criminally negligent; if ignorant or poor, they must be, as stated by some, fatalists.

A large proportion, so large I hesitate to estimate it, of the children die without medical attention, the doctor being called in only to furnish the death certificate. In many cases the doctor has been called in once, perhaps a week or a month previous. Under these circumstances the private practitioner, or the municipal physician, as the case may be, must make a diagnosis from the history as far as it can be obtained, and from the appearance of the body, or, failing to do so, may certify "undetermined". In the latter case, the medical inspector must decide whether or not the case shall be sent to the morgue. In general, bodies with cholera, plague or variola, or when suspicion of contagious disease exists, are sent to the morgue, and it is important to clear up the doubt in the interests of the public health. Bodies dead of unknown causes, evidently non-contagious in character and showing no evidence of violence or crime, are not sent to the morgue. In the early days of our sanitation here the greatest opposition prevailed to contagious cases being sent to the morgue or to the hospital, as the case might be. Within two years I recall several instances in which the family stated their willingness to pay well for the privilege of exemption from the usual requirements. It was impossible, therefore, in many instances, to get a

true history of the cases, some of the more intelligent as well as most of the ignorant trying to avoid direct answers to questions asked about the deceased. I have seen question after question parried by the mother, or other member of the family, by replies that absolutely had no relation to the question, the apparent intention being to tire and confuse the physician and, if possible, to avoid having a case with suspicious symptoms sent to the morgue. It is a pleasure to note that in many quarters the opposition to sanitation is less bitter, has died out or has even been replaced by a real desire to assist.

The following statistics compiled from morgue records convey an idea of the number of deaths from contagious diseases among children. In this instance, all ages of fifteen and under are counted, and the records since January 1st, 1904, have been used.

Variola	1 male		1
Bubonic plague	2 males	7 females	9
Asiatic cholera	27 males	33 females	60
Tuberculosis of the lungs	4 males	1 female	5
Leprosy and tuberculosis	3 males		3
Cerebro-spinal meningitis	1 male	1 female	2
Tetanus	1 male		1

Of these one case of cholera occurred in an infant two days old whose mother had died of cholera.

Congenital malformations are probably about as frequent here as elsewhere. Imperforate anus caused two deaths within my observation. One occurred before operation could be performed and another after operation. From a few minutes to a few hours after birth is the usual time of survival of the monstrosities, of which there are more than might be expected. During the past year I have seen three, and it is probable a number were not reported. Of the three mentioned one was a case of "acrania," the parietal bones being absent, but the brain being present. This specimen is now in the laboratory. The family stated that the mother was in the habit of visiting the Botanical Gardens, and took an especial interest in the large blue heron or crane. As we do not know all about maternal impressions as yet, this statement is at least worthy of a passing thought. The second case was one of "ethmocephalia," the eyes being close together, and the nose consisting of a cutaneous tag hanging over a rudimentary orifice. The third case was reported by Dr. J. W. Smith and is, I believe, more rare in occurrence, being of the variety called "terata catadidma, duplicitas anterior," with an almost complete duplication of the head. Of these cases the first and last lived but a few minutes, the second lived seven and one-half hours. To-day I hard of another case of Dr. Smith's in which there was inclusion of the left arm and upper two-thirds of the forearm, and at the same time eventration of the intestines.

It is impossible to say how many children die of internal congenital malformations, but it is probably so small a number as to make it of minor import.

The following is a list of diagnoses which do not appear as often as I think they should: Asphyxia, congenital debility, tuberculosis of the lungs, pneumonia, rachitis, cerebro-spinal-meningitis, tubercular meningitis, influenza and membranous laryngitis. A series of autopsies would probably show more cases of tuberculosis, more lobar pneumonia, more cerebro-spinal-meningitis and more tubercular peritonitis. Some undetermined cases may be due to meningeal hemorrhage due to traumatisms during labor. Some cases of infection in infants two days old are undoubtedly due to small abrasions received during delivery. Some diseases that will bear further investigation as to their degree of prevalence are malaria, acute dysentery, amebiasis, pertussis, scarlet fever and typhoid fever. Convulsions of children is probably a correct diagnosis in a certain proportion of the so-called cases (because there is no demonstrable underlying cause). A large number of the cases, however, are really enteritis due to improper food, unsanitary surroundings and exposure. In other cases the convulsions are only a symptom of the disease which is unrecognized.

ANTI-BACTERIAL SERA.

By Orville Harry Brown, Ph. D., M. D., St. Louis, Mo.

In an examination of the Wisconsin Medical State Board was the following question in Materia Medica and Therapeutics: "Give source, composition and therapeutics of the following antitoxins as they are now known: Antidiphtheric serum, tetanus antitoxin, antitoxin of bubonic plague, antistreptococcus, antipneumococcus, antituberculosis and antianthrax serum."

The question is a good one. The young graduate, or the old one either, who has the knowledge to answer each point of the above deserves credit. I doubt not but that the intention of the examiners was more to stimulate thought along the line of serum therapeutics, than it was to get a perfect answer. The parts on antidiphtheric serum, and tetanus antitoxin, were, without doubt, uniformly satisfactorily answered, because the scientific facts concerning these questions are accessible to medical students. But how can the other parts of the question be answered satisfactorily when there is such a chaos of opinion on the topics? Commercialism is running riot on antibacterial sera. Since it was first demonstrated that an antitoxine could be produced, it seemed possible that other or all diseases might have antisera. At any rate, the drug houses, working on this theory, which looked "good," at least from a financial

standpoint, have manufactured antitoxines for a large number of the infections, and have advertised them to the profession, as being curative for the respective diseases. The physician who has a large country practice, and consequently does not have time to read the scientific medical literature, may have been led to believe that antistaphylococcus, or antistreptococcus sera were to abscesses or septicemias what diphtheric antitoxin is to diphtheria. He reasons that drug houses would not manufacture such products and advertise them as beneficial, unless there was some scientific reason which would warrant the procedure.

Some few of our best drug houses employ good chemists, pharmacologists and bacteriologists, and these are the houses, too, which are the slowest to put out such a product. It may be the belief of these firms that antisera, if not of benefit, are not harmful. Is such a supposition warranted? Now, as to the question, "what are these antibacterial sera?" The serum therapy is based upon the theory that when bacterial toxines are vicariously administered to an animal, an increase in the protective substances of this animal's blood is induced. This holds for a few diseases (diphtheria and tetanus), and if it held for all, the antisera therapeutics would doubtless be flourishing today instead of being enveloped in a cloud of doubt.

The investigation of antibacterial serum has been recently undertaken by Sir A. E. Wright and his associates. This has been made possible only since the discovery of the opsonic power of the serum and methods for detecting the same. The opsonic index is ascertained by mixing equal amounts of washed corpuscles, bacterial emulsions and serum, and observing the phagocytic power of the corpuscles. This determines the protective power of the serum. Whether these antibactrial sera increase or decrease the protective power of the serum for the corresponding bacterial infection depends on the antibacterial effect of these agents. Doctor Bulloch[1] found that a certain antistaphylococcus serum was extremely toxic. Professor Wright[2] demonstrated that antiplague sera lowered the resistance of guinea pigs to plague infections, causing these animals to succumb to the test-inoculations in shorter time than the control animals,—the extent to which death was hastened in each case being directly proportional to the dose administered. It was found that an "antitubercular serum" from a reputable laboratory produced the same sort of a reaction in the opsonic index of a rabbit, as was produced by injections of tuberculin. In view of these experiments, Wright has come to the conclusion that a large number of the antibacterial sera are vaccines in disguise. By vaccines are meant sterilized and standardized solutions of bacterial toxines.

1. Bulloch: Reference from Wright's paper (reference following).
2. Wright: Clinical Journal, May 16, 1606.

To produce antitoxine the toxine is introduced continuously over a long period of time, in definite amounts, into the body of an animal; after some weeks the serum from the animal is obtained. The toxine is still present there in greater or less quantity. The difference between this and Wright's vaccine is that in the former case the bacterial toxine is diluted with an animal serum, and in the latter the toxine is diluted with physiological salt solution. Needless to add, the standardization of the former is less satisfactory.

Conclusion.

1. Some of the so-called antistaphylococcus sera, the antiplague sera, antitubercular sera, and doubtless others, are not antitoxines, but on the contrary, are toxines.

2. These antibacterial sera, provided they are administered in the proper dosage and at the proper intervals, may be used in some cases advantageously.

3. Properly made vaccines should be recommended as substitutes for these antibacterial sera which are not antibacterial, but toxic in property.

4. The vaccines (and antibacterial sera?) are most safely administered when controlled by the opsonic index.

Humbolt Building.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

INFLUENCING THE HEART'S ACTION AND THE BLOOD PRESSURE THROUGH SENSITIVE AREAS.—Rumpf (*Muench. Med. Woch.*, No. 4, 1907) confirms the observations of Mannhopff, who showed that the heart's action could be influenced through pressure on and manipulation of sensitive areas. Mannhopff showed that a pulse of 84 could be increased to 120 through such a precedure. The author finds, however, that other phenomena are quite as characteristic. (1) The heart's action may be increased; (2) there may be a short slowing down of the pulse followed by an increased activity; (3) the pulse may become small; (4) and it may become irregular.

The author advises against the application of this test in one's office. The patient should be in bed, preferably in the hospital, in order that the cardiac action should be uninfluenced by any external influences. The heart's action must be regular, uninfluenced by the examination itself, and the patient must breathe quietly and regularly. When under these conditions the heart's action is influenced through pressure on a certain area, it is an indication that this spot is exquisitively sensitive and that the heart is easily excited. The sign is especially valuable in cases in which malingering is suspected, in damage suits, etc.

INSTRUMENTAL EXAMINATION OF THE RECTUM.—Tuttle (*American Medicine*, Jan., 1907).—Tuttle shows the advantages of the pneumatic proctoscope and sigmoidoscope, giving some practical suggestions in technic for its employment in diagnosis. He has also used the instrument in treating palliatively, inoperable carcinoma of the rectum, believing that scraping out and cauterizing the growth gives as much relief as an artificial anus without the unpleasant features. The growth may even be retarded by this method and life prolonged; and it is surely to be preferred to the most perfect inguinal colostomy.

THERAPY OF DIABETIC PHTHISIS.—Thorspecken (*Munchen. Medicin. Wochen.*, Feb. 12, 1907).—The usual tendency when a case of phthisis develops upon the base of an established diabetes is immediately to place the tuberculous process foremost in point of therapeutic efforts, allowing the diabetes to take care of itself, as it were. Since, however, the phthisis has in most cases, arisen only on account of the lessened vitality of the tissues dependent upon the diabetic process, as is evidenced by its late development without previous dyscrasia, it would be altogether more logical to direct our therapy first at the diabetes, in order to increase

the tissue resistance, the lack of which has allowed the development of tuberculosis. Instead, therefore, of placing the patients upon a fat-producing diet, rich carbohydrates, forced feeding, etc., all directed towards increasing the patient's body weight, it would be more logical to place the patient upon a diet carefully selected as to its carbohydrate content, so as to preserve as perfectly as possible the proper carbohydrate equilibrium. Such a regime would minimize the harmful effects of the diseased metabolism, promoting an increase in tissue resistance. Of course other therapeutic measures,—fresh air, sunlight, exercise, etc.,—need not be neglected. A case is cited, treated according to these principles, which made favorable progress.

Urine Segregation by Means of Kidney Massage.—Cowie (*American Medicine*, Jan., 1907).—A manipulation for diagnosis of renal disease in place of ureteral catheterization is described. It depends upon the observation that products of inflammation are caused to flow down the ureter when the kidney is massaged externally. The bladder was washed with sterile water until the water returned clear. The patient was then turned on the right side and the left kidney massaged vigorously five minutes, having the patient take a deep breath, pressing high up under the ribs and kneading. The bladder again washed and the turbid washings collected in a sterile flask. The manipulation was now repeated on the right side. The bladder again washed and the washings returned practically clear. Tubercle bacilli were easily demonstrated in the washings from the left kidney; none could be found in that from the right. Operation, nephrectomy, left. The entire parenchyma was involved in abscess masses, the pelvis completely filled with granulation.

The author also calls attention to the fact that "the principle that holds true in serous cavities obtains in the urine," namely, that if in the pus obtained from the kidney, the mononuclear cells predominate, tuberculosis is to be suspected and diligent search made for the bacillus.

Heredity in Ulcer of the Stomach.—Huber (*Muench. Med. Wochens.*, No. 5, 1907) presents a series of twenty cases of ulcer of the stomach in which he was able to trace similar ailments to antecedents. Heredity has not been considered a factor in ulcer of the stomach, but according to the author's views should be so considered. He reviews the various theories as to the pathogenesis of ulcer and concludes that heredity is at least a factor with which to be reckoned.

Nervous Manifestations in Connection with the Passage of Stomach Contents into the Duodenum.—Kehrer (*Muench. Medizin Wochen.*, Feb. 5, 1907).—The author believes that dreams are often incited by the passage of food from the stomach into the duodenum. That some slight disturbance in the normal physiological process occasioned by overeating, or by some organic lesion perhaps of the stomach, gives rise to the oppressive dreams which so greatly disturb certain individuals. The fact that these often occur after an unusually hearty supper, also that they correspond in point of time to about that period in which the

stomach is emptying itself seems to lend some weight to the assertion. As prophylactic measures, he thinks that the patient should take the evening meal early, but should retire late, and that the meal should be moderate in amount, free from alcohol, irritating substances and from those things which require prolonged digestion, so that the stomach will have entirely emptied itself before the person has entered upon his night's rest.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

CLASSIFICATION OF SARCOMATA.—Borst (*Ziegler's Beit. z. Patholog. Anat. Vol.* 39, *H.* 3).—All interested in the much discussed problem of the classification of tumors called sarcoma, will find Borst's paper a source of valuable information. It is impossible, as the paper is a review given before the Lisbon Congress, to go into a detailed reference to its contents. Of all tumors sarcoma is the one about which the greatest diversity of opinion exists among pathologists. This obtains not only for certain forms of true sarcomata, but especially for the endotheliomata. Borst includes them with the sarcomata. Here the differences of opinion are extremely great. For instance, Ribbert takes a view directly opposite to that of Borst. No new facts are offered in the author's paper, but the representation of the subject is absolutely objective and so complete and impartial in its consideration of all phases of the problem, that it must be consulted by any pathologist dealing with the problem and trying to put it on a firm basis biologically. Borst's review is a brilliant guide to the way further studies must take.

ABOUT THE FORMATION OF METASTASES IN TRANSPLANTED SARCOMATA OF MICE.—Haaland (*Berl. Klin. Woch.*, 1906).—For the study of this problem Haaland used one of Ehrlich's mouse sarcomata. He obtained in twenty-three inoculated mice dying spontaneously from the growth, fourteen animals, or 60 per cent. that exhibited microscopically metastases in the lungs. Only two times the metastases could mascroscopically be seen. The tumors that produced the metastases varied in age from fourteen to forty days from the day of inoculation. It was found that in the beginning the secondary tumors represent small embolic foci in the small arterial branches of the lungs. Usually the latter are filled with rapidly proliferating (many mitoses) cells. As has been observed in carcinoma, here also such foci are found, that are surrounded by polynuclear and mononuclear cells that gradually undergo retrogressive changes. Most of the emboli found, however, are well preserved and grow. They perforate the wall of the vessel and grow as a sheath along the wall of the artery or penetrate into the alveolar septa and from there into the lumina of the alveoli. In this way larger tumor nodules are formed in which the original structures are altogether destroyed. Here, too, the elastic fibers

of the septa remain intact for a long time so that the primary structure can still be recognized. In later stages a very interesting observation was made, the appearance of fine fibrillæ between the single tumor elements. The author insists that they are the products of the tumor cells themselves. The lung tissue remains comparatively passive and does not react on the invasion of the malignant cells, except in some places at the periphery of larger nodules where some moderate proliferation and round-cell infiltration can be found. Of other organs Haaland discovered metastatic growths only in lymph glands and in the liver, although a systematic search throughout the body was not made.

About the Influence of Assimilation—Products on the Growth of Bacteria.—Rahn (*Centralbl. f. Bacter., Vol.* 16, *Orig. No.* 14-21).—The author assumes from the fact that bacteria divide into two cells identical with each other, that each bacterial cell, until the time of division, produces the same quantity of assimilation products, and by geometrical series calculates the critical concentration, that is, the concentration of assimilatory products that stops the growth of bacteria.

Immediately after the inoculation into new nutrient material there occurs a retardation of growth of the transplanted bacteria that persists for a shorter or longer period; only after some time does multiplication begin, gradually increases, reaches a maximum and then subsides again. Experiments showed that this retardation is diminished with an increase in the number of the transplanted bacteria. The age of the inoculated material alone does not explain the retardation of growth; it is the same, with the assumption, uttered by others, that it is necessary for the proteid substances of the medium to be acted upon by fermentative substances secreted by the bacteria before they can be utilized by the latter as food. Opposed to this is the observation that fluid media in which bacteria have grown, when filtered through porcelain filters, serve very well again as media. Even bouillon, in which the growth has continued for six days, when freed from bacteria, allows freshly inoculated material to abundantly grow and multiply.

This shows that the accumulation of assimilatory products cannot be the cause for the ceasing of the growth and death of the bacteria; it was furthermore established that the primary retardation of growth was not the consequence of the greater richness in oxygen of a new and fresh medium. Experiments with old bouillon in which the bacteria were killed by the heat, showed that the greatest rapidity of multiplication, or the shortest life of a generation, occurs with the presence of a certain concentration of a substance that does not pass a porcelain filter. This substance is produced by the bacteria themselves. In the same bouillon, inoculation of bacteria can be repeated six and more times after killing the bacteria each time by heat. It follows from this that the substance inhibiting, or retarding the growth, is destroyed by a high temperature and that not all of the assimilatory products are concerned in this phenomenon. It is not interfered with by the action of ether, but does not pass the porcelain filter, being absorbed in its pores. Rahn's work has brought light on a problem that has been much discussed, but so far has baffled explanation. While the

experiments were made on non-pathogenic bacteria, the study of pathogenic forms in this direction may lead to important results as to their behavior in the animal body during the commencing and subsiding period of infection.

Investigations on Syphilis in Monkeys.—Finger & Landsteiner (*Sitz. ber. d. Kuis. Akad. d. Wissensch. Wein.,* Vol. 114 Abth. 3).—The highly important work about which preliminary reports have been published for some time, at last lies before us in a complete form. Finger and Landsteiner, in using a great number of monkeys, belonging to the genera cynocephalus and macacus, have in their inoculation experiments almost always met with success. Like Metschnikoff and Roux and Neisser and Lassar, they consider the lesions and phenomena produced as syphilitic. As proof of this they demonstrate the existence of a period of incubation, the transmissibility from one monkey to the other, the immunity produced by the inoculation and the constant pathologic identity of the lesions produced with those observed in human lues. Last, but not least, the great frequency with which even in lower monkeys positive results are obtained, in convincing. They maintain that even they can be utilized with advantage for the demonstration of the presence of syphilitic virus. It is necessary to use for inoculation copious material and to introduce it into pockets under the skin, or in deep scarifications. The most favorable location for the inoculations are the eyelids and eyebrows. The local effect at first is simply a redness, or the formation of small red nodules that later result in sharply defined, reddish or yellow erosions, sometimes extending over the whole eyelid. After varying times, up to several weeks, retrogressive changes take place, the redness disappears, desquamation sets in and finally scar formation. There obtains a certain degree of infiltration around these lesions but never a definite induration. Often the site of the lesion is marked by pigmentation. The authors have in none of the animals experimented upon observed hematogenic dissemination of the virus, that is, distinct secondary phenomena. In some of the animals there was observed around the local primary effects, infiltration of serpiginous character around the scar that very much resembled certain processes in man. The inoculation from animal to animal succeeded in all cases. Sometimes the series was carried to the sixth generation without any apparent change in the character of the effects, indicating an attenuation of the virus. Even the effect of the virus from one genus of monkeys into another genus did not differ from that produced by the human virus. Investigations to establish immunity by preliminary injection of living or dead virus have not resulted in definite conclusions. They, however, succeeded in one experiment in producing infection by inoculation of material from a gumma.

In another publication (*Arch. f. Dermatol. & Syph.*, Vol. 81) the authors report about inoculations with different forms of virus. That from lymphatic glands shows that the latter always contain a copious quantity of the virus and that it is present not only in the regional glands, but also in glands far distant from the primary lesion. The blood in syphilis has infectious qualities only at certain times. Milk always proved

free from virus. It was found that the sperma of syphilitic individuals can contain the virus even in the absence of specific changes in the testicles. Of great interest are the attempts to gain knowledge of the immunity in syphilis. Inoculations in monkeys after a previous first infection seem to show that even for a longer time after the first infection it is possible to infect anew. It is shown thus, that at the time of the appearance of the primary lesion the monkey has not yet acquired a complete immunity. It could, however, be observed that the presence of the first infection modifies the second to a smaller or a greater degree. Other observations demonstrated that syphilitic individuals, even at the stage of secondary phenomona, are not completely immune, as they can be shown to react locally with specific reactions on the introduction of another virus. The authors explain the symptoms of the tertiary stage by a change of reaction of the partly immunized organism towards the syphilitic virus or its products. As we have learned that in all tertiary lesions the virus is present, it is permissible to assume that a change and more powerful reaction of the organism in late syphilis towards the virus exists, that certainly in tertiary lesions is present only in small amounts. For the pathogenesis of tertiary lesions, therefore, it appears that light begins to dawn and that we will soon have more exact knowledge of their mysterious behavior. [Virus here means spirochaete pallida. Ed.]

DIAGNOSIS.

IN CHARGE OF

ALBERT E. TAUSSIG M. D.

SUGAR TESTS.—Kellas and Wethered (*Lancet,* Oct. 20, 27, 1906).—As the result of extensive experimentation, the writers have found that a number of normal constituents of urine, especially Kreatinin, interfere with Fehling's test for glucose. If the urine has a high specific gravity, it should be diluted until the latter is less than 1015. The urine so diluted should then be mixed with equal quantities of Fehling's solution and boiled for a few seconds. It is then set aside, and if, on standing 2 minutes no reduction has taken place, the presence of pathologic amounts of sugar may be excluded. Longer boiling should be avoided, as otherwise the urates, if present in considerable amount, may simulate sugar. The phenyl-hydrazin test is absolutely trustworthy, only if the crystals thereby obtained are examined microscopically and their melting point determined. The writers have found the safranin test very simple and entirely satisfactory. It is not subject to any of the usual sources of error. An aqueous solution, 1 to 1000, of safranin, is used. Equal parts of this, of 4 per cent. sodium hydrate solution and of urine are mixed together and boiled. If glucose be present, the solution previously red, turns yellow. A quantitative estimation of the sugar can be made if, while boiling, more of the safranin solution is added, until the red color no longer disappears. If 2 c.c. of urine are used, each 2 c.c. of safranin solution corresponds to 0.1 per cent. of sugar. The mixture must not be shaken while the test is being made.

Methods of Reinforcing the Knee-Jerk.—O. Rosenbach (*Muench. Med. Wochenschr.*, 1907, No. 2).—A good method of reinforcing the knee-jerk is that advocated by Kroenig last year. At the word of command, the patient is made to look up towards the ceiling and to take a deep breath. An instant later, the patella is tested. The writer has, for some time, used the following method: The patient is handed a large book or newspaper, and, after the legs have been crossed, is told to read aloud as fast as possible. The size of the paper or book prevents his seeing what the clinician is doing, and the rapid reading completely withdraws his attention from his legs. The best method of all is that of Guttmann. It may be used even with comatose patients, and the writer believes that the knee-jerk should never be pronounced negative until this method has been tried. The patient lies on his back, the leg is suspended by means of a towel, and the thigh drawn obliquely upward by means of another towel, so that there is an obtuse angle at the knee. In this position, the patellar reflex can readily be tested. Its only disadvantage is that it requires the presence of an assistant. The duties of the latter are, however, of the simplest character.

Iodophilia in Scarlatina.—Neutra (*Zeitschr. f. Heilk.*, 1906, No. 11).—If normal blood be treated with iodine fumes, or with a mucilaginous Lugol's solution, the leucocytes are but little affected: In certain pathologic conditions, however, the iodine stains their protoplasm yellowish-red or brown, the nuclei remaining paler. This reaction, the writer believes, is constantly and intensely present in scarlet fever. If it is absent in the entire course of a febrile affection, this fact speaks against the diagnosis of scarlatina. If, in addition to an iodophilia, there is an increase in the proportion of eosinophils, the diagnosis of scarlatina is nearly certain. A rapid disappearance of the iodophilia has a favorable prognostic significance. On the other hand, if these iodophilic cells are constantly present in excessive numbers, the reverse is true.

The Color Index of the Red Blood Corpuscles.—Tuerk (*Muench. Med. Wochenschr.* 1907, No. 5).—The diagnosis of many varieties of anemia is in great part based upon the color index. The accuracy of the determination of this factor depends primarily upon the accuracy of the hemoglobinometer used. Not only, however, do most instruments fail to register 100 per cent. for normal blood with 5,000,000 corpuscles, but the error of observation is always considerable, especially if the observer is not exceptionally expert. The hemoglobinometer should therefore be independently calibrated and diagnostic importance should be attached only to great divergence of the color index from the normal. A well stained specimen of blood gives in general a very trustworthy notion of the color index, and the latter should be considered abnormal only if this finding is confirmed by the appearance of the stained red corpuscles.

The Diagnostic Significance of the Hyperacid Gastric Contents.—Rubow (*Hospitalstid*), 1906, No. 43; *Muench. Med. Wochenschr.*; 1907, No. 5).—Hyperacidity of the gastric contents can be produced in two ways, either through a simple hypermotility or through an actually excessive secretion of hydochloric acid. In both cases the gastric contents are hyperacid, but in the former only a small amount of contents can be obtained, whereas in the latter the quantity is abnormally large. The latter alone points to the existence of a gastric ulcer.

A Simplification of Heller's Test for Albumin.—Sachs (*Deutsch. Med. Wochenschr.*, 1907, No. 2).—A drop of nitric acid is placed upon a clean, glass slide lying on a dark surface. In its immediate vicinity is placed a drop of urine. As the two drops come into contact a white cloud appears, immediately, if the urine is rich in albumin, after a short interval if the albumin is present only in traces. A positive reaction may still be obtained with 0.01 per cent. albumin. A decided objection to the use of this method lies in the fact that the presence of a considerable amount of urates will often lead to the false assumption of albuminuria.

Salomon's Test in Gastric Cancer.—Schupfer (*Gazz. d. osped.*, 1906 No. 150).—Salomon's test consists in the production of an opalescence when Esbach's reagent is added to the fasting stomach contents. According to the writer's observation, is but very rarely positive in conditions, other than gastric cancer, and possesses considerable diagnostic significance.

A Modification of Guenzburg's Test.—Steensma. (*Tijdsch. vor. Geneesk.*, 1907, No. 3; *Deutsch. Med. Wochensch.*, 1907, No. 6).—In the phloroglucin-vanillin test for free hydrochloric acid, S. replaces the phloroglucin by means of phloridzin. Otherwise the test is done in the usual manner. He believes that his modification renders the reaction more delicate and more distinct.

Neurosis Simulating Gall-Stone Colic.—Ewald (*Therap. d. Gegenw.*, 1906, No. 3).—Ewald reports the following instructive case: A woman, 30 years old, had suffered for a long time with extremely severe attacks of pain in the hepatic region, which resisted all treatment, so that she had become a victim of morphinism. There was circumscribed tenderness in the region of the gall-bladder. At the operation, however, all the abdominal viscera were found normal. The pain continued for 9 days after the operation, and then gradually disappeared, apparently permanently. The pain and tenderness evidently were of purely nervous origin, and the possibility of such an occurrence should not be ignored in making the diagnosis of gall-stones.

THERAPEUTICS.

IN CHARGE OF
WILLIAM ENGELBACH, M. D.

REPORT ON THE TRYPSIN TREATMENT OF CANCER.—Graves (*Boston Med. and Surg. Jl.*, January 31, 1907.)—Graves reports in detail on four cases of recurrent cancer of the breast upon which he used injections of trypsin. He began by injecting ten mm. of the undiluted trypsin solution, and after two or three treatments increased this to 40 mm. three times each week. He says that this dose may be increased to 60 mm., or more, if the injections are given in divided doses and in different areas. The amount of injection and the frequency of treatment must be determined by the amount and severity of the local constitutional reactions. His conclusions from these cases are as follows:

First. A discreet cancerous node systematically attacked by injections of trypsin shrinks and becomes hard and fibrous, or disappears.

Second. Neighboring nodes are little, if at all, affected, and are probably influenced only when the trypsin comes into actual contact with the growing cells.

Third. The treatment of a given node, causing it to shrink, or disappear, does not prevent the appearance later of another node in immediate proximity to it.

Fourth. There is no evidence in these cases to show that trypsin affects cancer cells by circulating in the blood, or that it affects them in any way excepting by direct contact.

Fifth. The internal administration of the various ferments of the pancreas is of benefit to cachectic patients; but from my experience there is nothing to show that this benefit is due to anything else than the assistance given to the intestinal digestive secretions of the individual patient.

Sixth. The direct action of trypsin on growing cancer cells, as shown clinically and microscopically, is sufficient warrant to continue the treatment in inoperable cases, especially in view of the fact that there are apparently no serious results that can occur from its use.

ICHTHYOL AND ITS THERAPEUTIC VALUE.—Kegel (*Merck's Arch.*, February, 1907.)—The author gives the therapeutic action of ichthyol as that of abstracting oxygen from the tissues, thereby producing a marked diminution of any inflammation or local congestion. It contracts and granulates wounds perfectly, and has the power of penetrating unbroken skin. Unna introduced it first as a therapeutic agent in skin disease. The author has used it with good results in chronic articular rheumatism. For this disease he applies it as a 25 per cent ichthyol ointment and gives it internally in the form of a pill, capsule or in water from 3 to 10 m. three times a day. It has been recommended in lumbago, muscular rheumatism, rheumatic or gouty joint disease, and almost every form of subacute or chronic gout by Wood and Schweniger. Hare speaks favorably of its action on chronic articular rheumatism in the form of so-

dium and lithium, sulpho-ichthyolate in 10 to 30 grain doses in capsules, In erysipelas, eczema, psoriasis, acne, prurigo, herpes zoster, lupus, urticaria, burns and varicose ulcers it has been found to be of special value (Klatz, Nussbaum, Jamieson, Allen, Elliott, Unna, etc.) Lately it has come into use as a treatment for tuberculosis. The author and others (Rosenburg, Burnet), report favorably regarding its action in this disease. Furunculosis of the external auditory canal, anal-fissure, cervical endo-metritis, vaginitis, chronic inflammation of the uterus and adnexa are among the conditions which call for its exhibition. The addition of a little oil of citronella to ichthyol ointment robs it of its disagreeable odor.

The Use of Alcohol in Obstetric and Gynecologic Practice.—Theilhaber (*Munsch. Med. Wochenschr.*, Jan. 33, 1907.)—The author writes emphatically against the use of alcohol for almost any purpose either in gynecology or obstetrics. He says it is absolutely contraindicated during pregnancy on account of its deleterious effects on both mother and child. It is not indicated during the puerperium or lactation. He thinks it especially harmful when given to young girls for menstrual disturbances, and shows that it increases the symptoms during the menopause.

Pneumonia in Children. Its Successful Management by Hydriatric Measures.—Worster (*Med. Rec.* Feb. 16, 1907.)—The author gives the detailed treatment of pneumonia in children with cold baths, illustrating the same with the records of a case. The good effect of this treatment, he explains by the cold applied to the peripheral nerve producing a shock which is conveyed to the central nervous system. This, in turn, sends out reflex stimulus to the nerve centers which govern respiration, circulation, digestion, tissue building and excretion. He says the mere lowering of the temperature is a secondary consideration. The temperature, however, is reduced, respiration deepened, cardiac action improved, and the pulse slowed and rendered less dicrotic. His method is as follows: In the early stages of pneumonia full baths, beginning when a temperature of 102.5 degrees is reached, are given every four hours. The temperature of the first bath is 95 degrees. This is lowered two degrees for each bath until it reaches 80 degrees. The temperature of the bath should not be reduced below 80 degrees, and the effects should be closely watched. During the bath vigorous friction of the body should be applied. If dyspnea, somnolence, stupor and delirium occur the child is held in water at 100 degrees enough to cover its hips for five minutes; then several basins of water at 70 degrees having been prepared and in readiness, are poured upon its shoulders. This can be repeated every two hours if necessary. This procedure is called "affusion," and should be used when any head symptoms make their appearance. Each bath generally reduces the temperature two degrees, and though it rises again, it is generally not so high. The baths are repeated until the temperature is finally reduced to normal and remains there. His report on this method of treatment is very favorable.

Treatment of Delirium Tremens.—Ganser (*Munch. Med. Wochenschr.,* January 15, 1907.)—The author in writing on this subject condemns the treatment of this condition with chloral, paraldehyde, hyoscyamus, hyacine and other nerve sedatives. His experience with 1,051 cases is given as follows: During the first 8 years of 486 cases he had 31 deaths, or a mortality of 6.37 per cent. During the following eight years out of 565 cases he had 5 deaths, or a mortality of .88 per cent. The marked difference in his mortality he attributes to his treatment carried on during the latter eight years. This consists of abstinence completely from giving sedative treatment; complete withdrawal of alcohol; and giving digitalis in large enough doses to produce its physiological effect. Besides this, he gives stimulation in the form of camphorated oil hypodermically. In especially bad cases tablespoon doses of ice cold champagne is given every half hour. In order to increase the elimination he gives a solution composed of one per cent sodium acetate in water mixed with a small amount of simple syrup. This has a cooling, palatable taste and on account of its yellow color is frequently mistaken for beer by the patients. The digitalis is given by the rectum in those cases in which it cannot be given by mouth. He considers it the most important part of the treatment, being especially indicated because death, when it does occur, is the result of cardiac insufficiency.

Nervous Belching.—Adler (*Munsch. Med. Wochenschr.,* Jan. 22, 1907.—The author agrees with well known authorities that eructatio-nervosa is caused by the swallowing of air. The treatment for this condition he gives is (1) general anti-nervous therapy, especially suggestion and psychotherapy; (2) he considers the method recommended by Bonveret and later by Laube, of holding the mouth open, as one of the best means to prevent these paroxysms; (3) when this is not applicable, *i. e.,* when they occur during eating, he gives tincture of iodine and other local vesicants.

Results of Intratracheal Therapy in Pulmonary Tuberculosis.—Mendel (*Revue de Therapeutique Medico-Chirurgicale,* 1. Jan. 1907, ab. *Munch. Med. Wochenschr.,* February, 1907).—From a series of 200 cases upon which the author used injections of 3 ccm. of a 10 per cent oil of eucalyptus into the trachea he draws the following favorable report: The injections caused no bad results, and even produced no uncomfortable reflexes. They were used in a wide variety of chronic tubercular cases, and fever was not considered a contraindication for their use. The author claims that out of 200 cases, 47 per cent were cured, 33 per cent were undoubtedly improved, and 20 per cent. were not markedly affected. Many of the cured cases had remained so years after this treatment.

Treatment of Stenosis of the Pyloris in the New Born by Special Diet.—Schitomirsky (*Munch. Med. Wochenschr.,* Jan. 29, 1907).—The author gives his experience with two cases of stenosis of the pyloris in the new born treated with Biebert's cream dilution. This dilution of cream was given in very small doses at the first and gradually increased

in amount and concentration. The result was very favorable in both of these cases. The author maintains that this treatment should be tried in every case before surgical treatment is considered.

The Essential Facts Regarding the Nourishment of the Sick.—Rodari (*Der Arzt als Erzicher,* No. 26).—Rodari says in this extensive monogram that there are two indications to be fulfilled in properly nourishing the sick. First, to provide the proper strength and second, to aid the healing by attacking the disease directly or aiding and assisting the general resistance of the body. With these general principles for a preface he gives a detailed dietetic treatment for the special groups of diseases. The special points that must be considered in regard to the proper assimilation of specialized diet are the following: (1) Condition of the digestive organs; (2) The relations and amount of the constituents of the food; (3) The conditions and functions of the secondary organs of digestion. Articles of the diet are placed in six different groups: (1) Nutriment enemas; (2) Pure liquid diet; (3) Semi-liquid diet; (4) Liquid meat diet; (5) Solid meat diet; (6) Heavy meat diet. These different groups of diet, under which he gives a list of articles containing each, are only for general use. The author claims that special diets must be modified to conform to the requirements of each individual case.

Pulmonary Tuberculosis: Its Cause and Treatment.—Burwinkel. (*Der Arzt als Erzicher,* No. 2).—In this extensive monogram the author quotes liberally from statistic tables on the many inter-current causes of tuberculosis. He gives the records of results of preventative treatment of this disease in the different countries. The active treatment recommended in this treatise consists almost entirely of the recognized hygienic and dietetic therapy of the present time. Drugs and productions of active immunity by means of tuberculin is not considered well enough established to be put into general use.

The Care of the Skin and Cosmetics.—Michel (*Der Arzt als Erzicher,* No. 7).—This complete monogram includes both the physiology and pathology of the skin. The hygienic and other recognized treatment of ordinary skin lesions are given in detail.

The English Disease (Rickets) and its Treatment.—Goebel (*Der Arzt als Erzicher,* No. 26).—The author writes extensively in this article compiling the late development on the etiology and extension of rickets. The symptoms, signs and the newer developments as a clinical condition are dwelt upon. The different methods of therapy with their physiological basis are given in detail.

SURGERY.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

DISLOCATION OF CERVICAL VERTEBRAE, SEVERANCE OF CORD, PARTIAL RESTORATION OF FUNCTION.—Krauss (*Ann. of Surg.*, Nov., 1906).—The case history is of a youth who, after diving in shallow water, became semi-unconscious and devoid of power over his arms and legs, who had a dislocation of the sixth cervical vertebra that was reduced immediately. Sensation and power and all reflexes were entirely lost below the point of dislocation, and after six days bed sores rapidly developed; priapism and loss of control over feces persisted, and as the patient was rapidly failing, operation was consented to on the eighteenth day. There was no displacement of the vertebræ, and only a small remnant of old clot within the dura, but the cord was "flattened, ribbon-like and shrunken." The wound was closed, nothing but the relief of the intraspinal tension being accomplished, and the severed cord left as it was. Slowly the reflexes returned, the priapism disappeared, and he gained a sphincteric control; then power returned in arms and legs, so that eight months later he could stand alone for a few minutes, walk with support of chair, sensation becoming nearly normal. It is thought that regeneration of the spinal cord followed the operation, accompanied by a descending degeneration of the cord. Notice is taken of the Stewart-Harte case, also Fowler's case, where regeneration followed a complete severance of the cord at the tenth dorsal segment, the cord suture being performed ten days after the injury. The author believes that however severe the lesion, surgical measures should be resorted to as soon as possible, even if there is complete severance of the cord.

APPENDICITIS IN THE NEGRO.—Royster (*Mobile M. & S. Jl.*, Jan. 1907).—The general impression is that there is a racial immunity, but the author opposes this with his own and others' statistics. He has removed the appendix from negroes 53 times, 14 of them being primary appendicitis cases, the other pathologic appendices being met with in abdominal conditions. He believes that the disease is on the increase amongst the negroes, and that civilization and dietetics are responsible, as it is, according to Senn, an unknown disease in the negro hospital at Mozambique.

SEQUESTRATION ANEMIA IN BRAIN AND SKULL SURGERY.—Dawborn (*Annals of Surgery*, Feb., 1907).—To avoid hemorrhage in operations about the head and neck, blood is accumulated in the extremities, even a quart or more, and retained there by tourniquet until the operation is completed, and then allowed to return to the circulation. The constriction is applied about the thighs so as to nearly stop the venous flow, but not the arterial current. In five or ten minutes the limbs grow dusky in color and swell, the tension of the pulse at the wrist is lessened, and becomes

soft. The limb, or both limbs, are wrapped in cotton, and the operation proceeds, much less anesthetic being necessary than when this sequestation is not practiced. Should the patient show evidence of loss of blood, or shock, the tourniquet could be loosened and quarts of blood returned to the circulation immediately. It is best for the heart to release the imprisoned blood slowly. Six cranial operations are reported where, with this method there was practically no bleeding and no shock. The advantages claimed are: The reduction in the amount of anesthetics, consequently less vomiting subsequently, and less danger of hernia cerebri. Ease of control of hemorrhage during operation. Shortened operation because of dryer field. Lowered intracranial pressure, consequently increased depth and frequency of breathing, less danger of death from sudden pressure on respiratory center in tumor cases, and more space between brain and brain-case, making it easier to remove clots and to separate adhesions. Atheroma, septic blood conditions, recent typhoid fever and diseases inducing rapid blood coagulation, or any condition predisposing to atheroma, are counterindications for the practice of sequestration.

Conservatism in Harelip and Cleft Palate in Infants.—Brown (*J. A. M. A.*, Mch. 2, 1907).—The stand is taken against the more radical operators who advise the palate operation at the earliest date, the lip to be fixed subsequently. In these early operations the author believes the mortality greater, the subsequent deformity more marked and the speech no better than in later operation. After birth an adhesive strip is used to hold the lip together, and prevent further muscular pull; feeding is instituted with a bottle. The operation on the lip is deferred until the third or fourth week, if the child at that time is showing nutritional improvement, or it may be necessary to wait until the fourth month. The hard plate is closed between the first and second year. The soft palate is not closed until later. If the palate fissure is of unusual width mechanical measures are used to give better form before operative closure is attempted. Special attention is given to having the alimentary tract in good condition both before and after the various steps of the operation, and if there is much hemorrhage salt solution is given to replace the loss.

Fracture of the Base of Skull.—Crandon and Wilson (*Annals of Surgery* Dec., 1906).—In the last 42 years there were 530 cases of fracture of the base of the skull treated at the Boston City Hospital, which were one-third of all the fractured skulls admitted, and of these basal fractures over one-half recovered. Intoxication with alcohol in a third of the cases led to a frequent development of delerium tremens, which could not be wholly differentiated from meningitis or laceration of the brain. Consciousness was lost in less than one-half, and is not judged in itself a measure of danger if it is primary, but if a free interval supervenes before unconsciousness comes on, it is of serious significance, continuous hemorrhage, cerebral edema, or inflammation being feared. Bleeding from some orifice was present in 74 per cent. of the cases, most

frequently coming from only one opening; from two openings much less frequently, and, in order of frequency, from one ear, nose, subconjunctival, two ears, mouth. Bleeding from one ear is pathognomonic of fracture, and is usually due to a ruptured drum, while subconjunctival blood is least reliable as a guiding symptom. Of the temperature, the authors remark that the persistent depression measures the danger from primary shock, and its rapid rise later gauges the severity of the meningeal or cerebral lesion. It was most uncommon to have the escape of cerebrospinal fluid noted in these histories. Loss of motility of the pupils is regarded as more grave than inequality, but little reliability can be placed in this sign. Paralysis of nerves following basal fractures is not frequent. Of the cranial nerves the facial suffers most frequently, but recovers favorably. Skeletal paralysis is occasionally noted, and means a complicated injury usually followed by death. Loss of bladder and rectal control is usually a result of unconsciousness, and of these over one-half died. Operation should be done only in those cases where hemorrhage is the most important feature, as it shows continuous and progressive intracranial compression. Prognosis is usually difficult in those cases, which remain long unconscious, but about one-half of the cases die shortly after the injury from the brain laceration and hemorrhage. The remote after effects have been studied, and in 38 cases inability to work as hard as formerly was the chief cause of complaint, being easily tired and unable to concentrate their mind. Poorer eyesight, dizziness, and deafness, usually in the ear from which the bleeding came, were frequently complained of, and the families noted irritability of the patient. The average of 10 days in the bed and 16 days in the hospital is considered quite too short by the authors, and they recommend rest in bed for at least three weeks, with absolutely quiet surrounding, and give the bone time to heal, and resorption of extravasation time to take place.

Contribution to the Statistics of Mammary Cancer and Its Cure. Erick Schen (*Mitt. a. d. Grenzgeb. d. Med. u. Chir. Gedenkband f. v. Mikulicz*).—The results of the ten years' work, from 1890 to 1900, at Mikulicz's clinic at Breslau are interesting, as they include two periods, that before and that after the complete operation was done. It is shown how important it is to operate radically early, removing both pectorals with their fascias, clearing out the axilla, and the infra, and supraclavicular glands, which has been the method used since 1898. Previously Mikulicz had been relatively conservative, removing the breast and tumor with the pectoral fascia and the axillary glands, only removing the pectoral muscle, or part of it, when there seemed some direct involvement. In the 295 operated cases there were 8 deaths, about equally divided between pneumonia, sepsis, pleurisy and collapse—two of the cases, however, were operated for recurrences. The statistics developed from the case histories of the 320 cases show very little evidence of hereditary influence. The youngest case was 24 years, and the oldest case was 87 years; the most of them, however, were between 50 and 60 years old, and nearly all had nursed their children. There were two male breast cancers. Chronic inflammation was often a forerunner of cancer, being present in 28 cases (7.4 per cent), and trauma was noted in 6 per cent of

the cases. Often a long standing benign tumor becomes malignant. The left breast was most frequently attacked, and the upper and outer quadrant of the gland was the part involved in 43 per cent. This involvement of the upper and outer quadrant was explained on the theory of Schmidt and Stiles, that the tumor originated in an aberrant part of the gland, which is frequently not connected with the main gland, and therefore, a fit nidus for cancer. The types of cancer in the order of their frequency was scirrhus, simplex, meduallary and adeno-carcinoma. No definite classification can be made as the types frequently merge into one another. Acinose cancer ulcerate and early form metastases. These cases did not come under observation until quite late, as many of them were of the poor peasant class. Over 50 per cent had the tumor attached to the pectoral fascia, and about a third of the clinical cases had ulcerated. Nineteen months was an average time before the supraclavicular glands were affected, but non-infection of the supraclavicular glands was no guarantee that there were no internal metastases. The liver was found the most frequent seat of the internal growths. The cases are divided into four classes, according to extent of growth, and the results are for all kinds of operation.

1st Class. Those without any glandular involvement. Twenty-nine cases traced; 45 per cent living and well to date.

2d Class. Those with the axillary gland involvement only shown microscopically. Twelve cases traced; 25 per cent. cured.

3d Class. Axillary glands felt, but no other glands. One hundred and fifty-nine cases traced; 18 per cent. cured.

4th Class. Carcinoma spread beyond axillary glands. Thirty-three cases traced; only 1 cured.

Most of the recurrences were local in the scar. Of the 233 cases operated from 1890 to 1900, 20 per cent were living and well in 1905. The cases were also tabulated according to the operation performed. These results show the great advantage of early operation done completely. Inoperable cases, when let alone, lived as long as 25 months, with an average of 7 months. In these cases Fowler's solution was used in large doses. Late recurrences were noted in cases as long as 8, 9 and 11 years after the first operation, the recurrences being mostly in the scar. It is concluded that in early, as well as moderately advanced cases, the chance of recurrence becomes less the more radical the operation. In the more advanced cases (4th Class), it is the exception for any to remain well, but they are greatly benefitted by operation, and this must be done with great care to remove all the very smallest infraclavicular glands, and, if necessary, divide the clavicle as Halsted advised, and get the whole supraclavicular chain as well. The defect of the chest wall, after the complete operation is not objectionable, and the function of the arm is good. Occasionally a lymphstasis, with swelling of the arm, was noted. In this clinic the customary 3-year limit for recording a cure has been completely abandoned, and the above statistics were with 5 years the shortest period.

ORTHOPEDIC SURGERY.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

THE OPERATIVE TREATMENT OF FRACTURES, ESPECIALLY OF THE LONG BONES.—Vaughan (*Amer. Jour. Med. Sci.*, Mar., 1907).—The time has long since passed when the question of operation in the treatment of fractures was not to be considered, unless it were a question of amputation or resection. The x-ray and the advent of aseptic surgery have made it possible to set the fractured ends of long bones so that no shortening or overlapping of fragments may result. In answer to the question, why should we operate on fractures that will get on well without operation, we may say that the object of operative treatment is to prevent deformity of a limb, to prevent loss or impairment of function, to obviate delayed union, or non-union, and to give opportunity for the soft tissues to repair; finally, to get an anatomical result. The author states that, in his opinion, perfect adjustment of the fragments, where the fracture is of a long bone, is seldom accomplished without operation. Measurements are unreliable, in that one-half or three-quarters of an inch mistake may easily be made. By exposing the site of fracture by incision, he has often demonstrated the great difficulty of reducing by extension and counter-extension fractures of the humerus, radius, femur and tibia, in which the ends of the bones overlapped. He does not believe that Buck's extension, or other forms of extension, can fully correct the shortening, though they may diminish it. The intervention of soft tissues, too much motion, or lack of accurate approximation, are the most fruitful causes of delayed union. The dangers of operative treatment are those which are incident to any operation. The anesthetic, the danger of fat embolism, and the extensive detachment of periosteum and infection are principally encountered, but in modern surgery these dangers are not great. The various means used to hold fragments of bone together, such as plates, screws, nails, ivory-pegs, bone-ferrules, animal sutures and wire, each have their special uses. The use of wire is probably the best, in a large majority of cases. It may be used in several ways; as a single loop, as a loop enforced by wrapping, or simply as a wrapping, without drilling; or it may be carried around the fragments in position at two or more corners. Care should be used against the injury of soft parts, in adjusting the wire. The best bone-drill is one with a handle like a gimlet. All hemorrhage having been arrested, the wound should be closed and a plaster of Paris splint applied, with a window, through which the progress of the wound may be observed. The author reports 102 cases of fracture, on which he has operated, and describes in detail the various operations.

DRAINAGE OF THE KNEE-JOINT.—Peck (*Annals of Surg.*, March, 1907).—Septic infection in the knee-joint constitutes one of the most alarming conditions which the surgeon is called upon to meet. The dis-

astrous results both to limb and life render any procedure which can ameliorate its dire results, and minimize the damage which inevitably follows, worthy of serious consideration. Too often it has ended in amputation at or above the middle of the thigh, and not rarely in actual death from sepsis. Flint, in a summary of 62 infections of the knee demanding operation, reports 7 deaths, 4 recoveries following amputation and 2 following resection, and 49 recoveries with disability varying from slight limitation of motion to complete ankylosis. The author described a method of opening the knee-joint which is applicable only to severe cases where the results aimed at are to save life, avoid amputation and secure a useful limb without joint motion. This operation is second in severity only to amputation, and should be reserved for cases in which efforts at drainage and irrigation have failed to check the progress of general sepsis. The operation consists in making a curved incision, which completely divides the patellar ligament, anterior capsule, both crucial and both lateral ligaments, leaving only the posterior ligament intact, and allowing separation of the bone, and opening widely the posterior recesses of the joint. He reports several cases on which this operation was done, and recommends that the operation should not be employed in mild or early cases, but should be reserved for severe cases, where avoidance of amputation or death from sepsis form the sole consideration. The enormous raw surface thus exposed makes dressings exceedingly painful and cleanliness difficult. The limb should be put up in a suitable splint at 45 degrees flexion, and secondary operation should not be performed until suppuration has ceased, requiring, as a rule, a period of from three to eight weeks.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

SPHINCTERIC CONTROL OF THE MALE BLADDER AND ITS RELATION TO PROSTATECTOMY.—Ball (*The Practitioner*, March, 1907).—Which is the important muscle to avoid injuring in the surgery of the region of the bladder neck and prostate, is a question which has provided a good deal of controversy, different observers getting different results, according to the methods employed. Now that a large number of prostatectomies have been performed, an opportunity has been afforded in man of deciding the question. The result has been that it has generally been accepted that the important muscle is the compressor urethræ muscle, and that, if incontinence is to be certainly avoided, the membranous urethra should be carefully left uninjured.

In order to ascertain the part played by the internal sphincter of the bladder in controlling urination, the author, in experiments upon dogs, cut off the urethra in front of the internal sphincter of the bladder and found that by leaving only this sphincter the dog had control of urina-

tion. He says that it seems quite incorrect to argue, from operations upon patients with enlarged prostates, that the chief sphincter of the bladder normally lies in the membranous urethra.

Lipoma and Lipo-Sarcoma of the Kidney.—Hartwig (*Am. Jour. Urology,* Feb., 1907).—The author reports a very interesting case of lipo-sarcoma, in which the growth was the size of an adult head and weighed 3,5000 grs. After a thorough consideration of the subject, he gives the following conclusions of Selter, which at the present time, are agreed in by most authorities. 1. All known cases of fatty transformation of the kidney show that there is an overgrowth of fat, and not the development of a fatty tumor. 2. This arises from the surrounding capsule, more especially from the small, fat clusters in the hilum. 3. True lipoma only occurs in the renal cortex in the form of small nodules about the size of a cherry stone. 4. These are of a heteroplastic nature, and are not derived from the renal tissue, but from aborrent fat tissue germs which become enclosed, either during the development or growth of the organ. 5. In none of the cases observed up to the present, have these tumors led to the destruction of the surrounding renal parenchyma.

Vesical Calculus.—Swinburne (*Am. Jour. Urology,* Feb., 1907), —In speaking of "how to get them out," the author says: I think the preponderance of opinion among surgeons, whose work is largely or entirely confined to genito-urinary diseases is in favor of the crushing operation in properly selected cases of vesical calculi, while it is the practice of American surgeons in general to do the suprapubic operation almost exclusively. This is due to the fact that the majority are utterly unfamiliar with the crushing operation, while the majority of those who are familiar with it have not trained themselves to perform it, and look upon the cutting operation as easier and safer. Yet it seems that they do not take into account the marked difference in the length of time of convalescence between the two operations, which is often of great importance to the patient. After the crushing operation, the patient seldom need be detained longer than two days, while with the cutting operation—if performed, when possible, under the ideal condition of completely closing the bladder wound—I doubt whether it is safe to allow the patient to go about under two weeks, and, as ordinarily performed, six weeks is the shortest time to elapse before he can get about.

In the discussion which follows, the views of the author are almost unanimously shared. Dr. Muren mentions that he has done fifteen litholapaxy operations without any anesthetic, the urethræ being tolerant, the main complaint of the patients being during the operation of the evacuating apparatus.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

ON HERPETIC INFLAMMATIONS OF THE GENICULATE GANGLION. A NEW SYNDROME AND ITS COMPLICATIONS.—Hunt (*Journal Nerv. and Ment. Dis.*, No. 2, 1907).—This is one of the most valuable pieces of research work that has appeared during the past year. The paper was read at the last meeting of the American Neurological Society. It is impossible to abstract the paper adequately, therefore, merely an outline will be given. Under the general heading of herpetic inflammation of the geniculate ganglion of the facial nerve, the author has brought together for the first time three separate groups of cases, each group presenting distinct and clearly defined characteristics, but showing various combinations and transition forms. Their union is believed by the author to constitute a new and distinct clinical entity. The pathological groundwork of this affection is identical with that of herpes zoster, of which it forms a part, the distinguishing features of the clinical picture depending entirely upon the ganglion involved, and the nature of the structure surrounding it. A careful review of the anatomy of the ganglia involved is given, as well as the microscopical sections of a case upon which most of the evidence of the author's contention is based. He briefly summarizes his conclusions as follows: The facial, like the trifacial, is a mixed nerve. Its sensory ganglion is the geniculate. The motor root of the geniculate is the facial nerve proper, and its sensory root is the nerve of Wrisberg. This ganglion is of the spinal ganglion type, and, therefore, in common with other ganglia of this type comes within the realm of true herpes zoster. The zoster zone for the genicualte is found in the interior of the auricle, and in the external auditory canal. The pathology underlying the affection is the specific hemorrhagic inflammation of the ganglion as found in zona. As the geniculate is lodged in a narrow, bony canal, and stands in close relation to the seventh and eighth nerves, the characteristic syndrome is produced. The syndrome may be divided into three clinical groups: 1. Herpes zoster auricularis. 2. Herpes zoster in any of the zoster zones of the cephalic extremities with facial palsy. 3. Herpes zoster of the cephalic extremity with facial palsy and auditory symptoms (tinnitus, deafness, vertigo, vomiting, nystagmus and disturbances of equilibrium).

THE PROGNOSTIC IMPORTANCE OF THE ARGYLL-ROBERTSON PHENOMENON.—Pilz (*Monat. f. Psychiat. und. Neurol.*, No. 1, 1907).—This is a valuable paper which has for its object the emphasis of the limitation which is necessary in the prognostic importance of the Argyll-Robertson pupil. It was formerly thought that the existence of this pupil meant that the patient would either develop tabes or dementia paralytica, or a combination of them. The author points out that this pupil may exist, first of all, as the sole reaction of the nervous system to a syphilis,

and that its existence may be one of the temporary evidences of a severe form of neurasthenia. To establish his thesis he collects certain cases which were examined in the clinic, and in which very often a temporary diagnosis of tabes or dementia paralytica was made. A certain number of such cases returned afterward with no evidence of the pupil existing, and certainly with none of the signs of the other two organic diseases present. He insists upon the necessity of the most careful examination of those cases of neurasthenia which present pupil phenomenon of the kind described, and calls attention to the necessity of founding the diagnosis of dementia paralytica in such cases more on a careful analysis of the psychical symptoms than on the existence of the Argyll-Robertson pupil.

The Importance of the Psychoanalytic Method of Freud.—Sadger (*Centrallbl. fur Nervenheilk, und Psychiat.* Jan. 15, 1907).—This is a more or less authoritative account of Freud's method by one of his pupils, who brings out as proof of the correctness of Freud's assumption certain clinical experiences of his own. As is well known, the Freud conception of hysteria has to do with its etiology, and a method of treatment which depends for its effectiveness upon a psychoanalysis of each symptom back to its origin, frequently in early infancy. The foundation for each symptom is found in some sexual trauma. The author of this paper expresses it in this way: "Back of every symptom of hysteria and imperative neurosis is hidden a mass of suppressed sexual desires." In explanation of this idea the author engages in a number of discussions relative to the correctness of Freud's theory, and to the explanation of the attacks that have been made upon it. He shows that much of the criticism directed against the theory is due to the misunderstanding of the writers as to the meaning of Freud's conceptions, and likewise much to the incompleteness with which cases have been studied by means of the psychoanalytic method. One of the chief objections against the theory is based upon the assumption that much of the evidence to be obtained by psychoanalysis is a result of suggestion on the part of the physician. The author of this paper shows conclusively that suggestion, at least, has absolutely nothing to do with the question. The method being in all its phases deductive, the place which suggestion can occupy is difficult to point out. A further criticism directed against the method has to do with the fact that sexual matters in hysteria had better be left out of the question both for the benefit of the patient and for that of the physician. The author shows that such an attitude is entirely unjustified, for the simple reason that medicine deals absolutely with the facts of disease, no matter where found, and no matter what their origin may be. It must be admitted that the author defends the theory from attacks with success, and he shows that the same degree of care has not been shown by the critics of Freud's theory that the study demands, and that, therefore, much of their argument fails for this reason. In the cases quoted in outline, the author attempts to prove the truth of Freud's hypothesis. In this he appears to be less successful than in the other part of his paper. The reason, no doubt is, that in order to make a proof of this kind con-

clusive, the whole of the history of a case must be given, or at any rate, enough of it to permit the reader to form some kind of an independent judgment. After all, whatever attitude one takes toward hysteria a paper of this kind is well worth careful study, especially in view of the recent efforts on the part of Babinski to limit the conception of the disease until it almost ceased to be anything else than a few symptoms to be cured by a little persuasion. It is to be hoped that more of this kind of analysis work will appear from time to time, so that the method may become well enough known to allow of more independent research upon it.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

PRELIMINARY NOTE ON ENUCLEATION OF EYEBALL UNDER LOCAL ANESTHESIA.—Bruns and Robin (*Annals of Ophthalmology* October, 1906).—The following method has been used with success in twenty cases. The mixture used consists of 10 drops of cocain, 10 drops of adrenalin chloride (1-1000) and 20 drops of normal salt solution, making 40 drops containing altogether 2-5 grain of cocain.

Ten drops of the mixture are injected deeply along each rectus muscle, behind the equator of the globe, and after a wait of five minutes, the operation is performed in the usual way.

Pain is experienced, if at all, only during the cutting of the optic and ciliary nerves. The robust and full blooded complain more of pain than the frail and delicate, the pain being compared to that attending the extraction of a tooth. Three cases gave no evidence of suffering during the entire operation.

A few of the advantages of the method over general anesthesia are: The patient is conscious and by that fact stands warder against the awful error of removing the wrong eye. The amount of cocain used (gr. 2-5) is almost insignificant. Finally, patients seem to prefer it.

DIAGNOSTIC EYE FINDINGS IN ARTERIO-SCLEROSIS.—Suker (*Lancet Clinic*, Dec. 22, 1906).—Alterations in the fundus are often the earliest signs of beginning arterio-sclerosis. In well advanced cases, the prognosis as to life may often be made with some accuracy from the fundus appearance.

The author quotes from a recent paper by De Schweinitz, who divides the retinal signs into (1) suggestive, and (2) pathognomonic. The former include uneven caliber and undue tortuosity of the retinal arteries, increased distinctness of the central light streak, an unusually light color of the breadth of the artery and alterations in the course and caliber of the veins. The pathognomonic signs include beading of the arteries, loss of translucency, lesions of the arterial walls in the form of white stripes, indentations of the veins by the stiffened arteries crossing them. Beyond

the point of crossing the veins may show a dilatation. The veins may show evidence of perivasculitis. Edema of the retina in the form of gray opacity around the disk, or following the course of the vessels, and hemorrhages of various kinds, are other signs of importance.

The fundus picture as described is produced by no other condition except the persisting high arterial tension of arterio-sclerosis.

Multiple punctate hemorrhages at the vessel terminals, or between the arms of vascular branches, are suggestive of arterio-sclerosis, especially where there is no evidence of retinal inflammation.

Repeated conjunctival hemorrhages in the middle aged and aged indicate a liability to cerebral hemorrhages, especially when arterio-sclerosis is present. The author states that instillation of adrenalin will cause an apparently straight conjunctival vessal to assume a tortuous contour in beginning arterio-sclerosis. He confirms Lowy's observation that increased pulsation of the fundus vessels upon bending the head well forward on the chest is indicative of cerebral arterio-sclerosis.

Other points alluded to are miliary aneurism of the retina, and a moderate edema of the retina.

THE SURGICAL TREATMENT OF TRACHOMA.—Ryerson (*Annals of Ophthalmology,* October, 1906).—Ryerson advocates Darier's "grattage," which is described as follows: Under general anesthesia, the lower lid is everted by a special form of forceps and scarification is made with a three-bladed knife, so as to divide every granulation. If the lids cannot be completely everted, he cuts the outer angles, a procedure called for in about 30 per cent. of the cases. If the caruncle is much infiltrated it is removed with scissors. The scarifications cause the gelatinous material to escape on the conjunctiva and care must be taken not to allow it to remain on the wound. If necessary curettage is resorted to.

The conjunctival surface is then thoroughly brushed with a hard tooth brush previously moistened with a 1-1500 solution of cyanid of mercury. The rather severe reaction is controlled by iced boric acid, or subacetate of lead compresses.

The successful use of grattage is dependent upon (1) choice of the case, the best result being obtained in the severer forms of papillary granulations, though the sago grain form is also benefited. In old atrophic trachoma, grattage is useless. (2) Thoroughness with which the treatment is carried out. A single granulation may act as a center for reinfection. (3) The operation should be followed by persistent medication.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER.

THE CURABILITY AND OPERATIVE TREATMENT OF OTITIC PYEMIA.—Zebrowski (*Monatsschr. fur Ohrenheilk.*, January 10, 1907.)—After discussing the status of these questions, the author gives the complete his-

tory of 6 cases of otitic pyemia, which have recently come under his observation, 4 of which ended in recovery. He concludes as follows: 1. Otitic pyemia does not present a characteristic clinical picture. The cases range from very slight to the severest forms which end in death. The operative methods are to be modified according to the severity of the disease, and pathological anatomical changes found in the temporal bone, and the brain and its coverings at the time of operation. 2. The radical removal of the diseased process in the temporal bone, and the free opening of the lateral sinus often suffices to cope with the pyemic process. 3. The antistreptococcus serum can have a decidedly favorable influence on the post-operative course of an otitic pyemia. 4. The absence of pain about the mastoid in a suppurative inflammation of the middle ear, has no important bearing on the operative indications. 5. The presence of symptoms indicating a thrombosis of the cavernous sinus, must be regarded as a sign which is indicative of a fatal issue. All operative methods proposed for opening the cavernous sinus are impracticable.

THE PRESERVATION OF HEARING.—Bryant (*Med. Rec.*, Mar. 2, 1907.)—The author in a very interesting article calls attention to the advantages of periodical aural examinations, and the benefits which would accrue to the patient through the easy correction of aural defects which, untreated, would become serious or incurable. The layman has not yet learned to practice the same economy of his hearing as he does of his teeth or of his sight; not that he values his hearing less, but simply because the defect is not noticeable to the patient, and his attention is not called to the fact, consequently, a great loss of hearing may be brought about entirely unknown to the individual. The diminution of sound perception may not be noticed until a very large part has been lost. The scheme of prophylaxis would apply to all ear diseases and defects not congenital, among them those originating in the pharynx, nose, tuba auditiva, external auditory meatus, complications of diseases, nervous conditions, trauma, etc. Impairment of the acoustic balance, whether it be due to inflammations affecting the Eustachian tube, or to foreign bodies, impacted cerumen, new growths, etc., affecting the external canal, is especially prone to come on unobserved, and the hearing is seriously affected before the patient notes any change. Early observation will detect these insidious conditions, and judicious treatment cure them before serious impairment has taken place. The author suggests that the otologist should be consulted at least once a year, after each cold, and when anything unfavorable is noticed in the ear.

THE PRESENT STATUS OF TREATMENT OF ACUTE AND CHRONIC SUPPURATION OF THE MIDDLE EAR.—Stucky (*Lancet-Clinic*, March 2, 1907.)—The author states that in every case of pain in the ear, the auditory canal and tympanum should be carefully inspected for the cause, and if there be redness or tension of the drum membrane, the canal should be thoroughly irrigated with normal saline solution and bichloride 1-3000, after which fill with pure alcohol and allow to remain a moment in order to

make more effectual the sterilization. At the earliest possible moment, a free incision should be made from the posterior inferior quadrant along the margin up to and including Shrapnell's membrane, incising about one-third of the entire posterior periphery of the drum. After the incision, dry with sterile cotton, and insert sterile iodoform gauze, filling the meatus with sterile absorbent cotton, changing the dressings when indicated. If the case proceeds to suppuration, irrigate twice daily with warm saline solution and alphozone 1-3000, and protect the canal with cotton. If there is severe mastoid pain, apply dry heat. If the mastoid pain and tenderness increase, with bulging of the posterior superior wall of the canal, and accompanied by temperature, a mastoid operation should be done. In the early cases, endeavor to get out every cell and sew up the wound after having placed a fenestrated rubber tube in the bottom of the wound, allowing it to remain at least 3 days. If suppuration should return, the wound can be opened from below without pain. If the acute suppuration continues, and is abundant in amount, it is evident that more or les of the mastoid area is involved, and after waiting about two weeks without any diminution of the discharge, it is safer to open the mastoid cells. The author concludes by saying, that the discharge of pus from any part of the ear must be regarded as a menace to hearing, health and life of the individual so afflicted.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

M. F. ENGMAN, M. D.

THE OVER-TREATMENT OF SYPHILIS.—Bryce (*Southern Clinic*, March 1, 1907).—The author enters into a discussion of the systemic treatment of syphilis, based upon a long experience in the handling of this disease. He says the great error of the present day in the treatment of syphilis is in overpowering and poisoning the system over long periods with so-called specific remedies. He has seen direful effects from mercurialism and idoism, pushed with good intentions, and he thinks he has seen more harmful effects from this course than would have occurred if the cases had not been treated at all. Because the system for a time tolerates a poisonous dose, it must not be inferred that such active poisons are without ultimate deleterious effects, that will last possibly for a lifetime. Massive doses of iodide of potash will undoubtedly suppress certain symptoms of constitutional syphilis for a time; but they do more—they do this at the expense of cell-integrity, and leave the system a greater sufferer after all. The cases should be treated individually, according to their needs, paying attention to cell-building, elimination by the skin, kidneys, liver and bowels, the general upbuilding of the system and the therapeutic doses of special remedies. Such a procedure will cure a patient more speedily, more certainly and with fewer regrettable accidents than that procedure followed from text-books, which blindly pushes mercury and iodism to their ulterior effects.

THE NATURE OF HERPES SIMPLEX, WITH A CONSIDERATION OF ITS DIAGNOSTIC AND PROGNOSTIC SIGNIFICANCE IN VARIOUS INFECTIOUS DISEASES.—Schamberg (*Jour. of Amer. Med. Assn.*, March 2, 1907).—The author believes there are many features of resemblance between simple herpes and herpes zoster, but there are also strong points of dissimilarity. In extreme cases of herpes, particularly about the face, it is sometimes difficult to distinguish between the zoster and simple forms. The clusters of firm vesicles upon the erythematous base are identical in both. Histologically the lesions in the skin and those in the affected nerve structures are practically the same in the two varieties. Thus far, simple herpes might almost be regarded as a circumscribed, abortive zoster, but there are other differentiating clinical features. The most important is the tendency to recurrence in simple herpes, contrasted with such a rarity of second attacks in herpes zoster as almost to suggest an immunity conferred. Indeed, some attacks of true zoster are no more common than second attacks of measles or scarlet fever. Certain patients are subject to facial herpes, suffering from ten or more attacks a year. In herpes zoster, there is more pain, and the eruption follows in a general way the area of nerve distribution. In elderly patients, the neuralgia may persist for weeks or years after the disappearance of the eruption. After study of these cases, the author arrives at the following conclusions:

"1. Herpes zoster and herpes simplex—both the facial and genital varieties—while not clinically identical, are closely related. The histology of the cutaneous lesions and the observed changes in the nerve structures examined appear in all to be practically the same.

2. It is highly probable that the vast majority of all cases of herpes of the various types are the result of the action of a toxin. This proposition necessarily assumes the infectious origin of herpes.

3. The frequency of herpes simplex in certain infectious diseases and its rarity in others is evidence that the toxin must possess certain peculiar qualities in order to exercise a selective affinity for sensory nerve structures.

4. The toxins producing herpes simplex and herpes zoster are in all probability not the result of the action of any specific micro-organism. This is certainly true of the former, and by analogy may be assumed to be true of the latter disease.

5. The three diseases in which an 'herpetogenic' toxin develops with a fair degree of constancy are pneumonia, spotted-fever and malaria. Its frequency in these diseases and its comparative rarity in typhoid fever and many other infectious maladies make its appearance a symptom of considerable diagnostic import.

6. In view of the tendency of certain individuals to recurrent attacks of facial herpes from slight indispositions, the fact of such a history should always be elicited before according to herpetic outbreaks the diagnostic value referred to."